

• Chemical Issue •

BUSINESS end of the chemical industry, where carboys mingle with drums, control instruments follow the changing form and quantity of chemicals moving automatically or semi-automatically toward the warehouse and shipping platform, and where supervision goes by "ones" and "twos" up and down the steel stairs watching the controls, like a modern Sherlock Holmes, for "departures from normal".

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# CONNECTICUT INDUSTRY

SEPTEMBER  
1935

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# Pioneers in Industrial Fuels

NOT OLD in years—only a decade—but in that short span two important commercial movements have been successfully pioneered by T. A. D. Jones & Co., Inc.

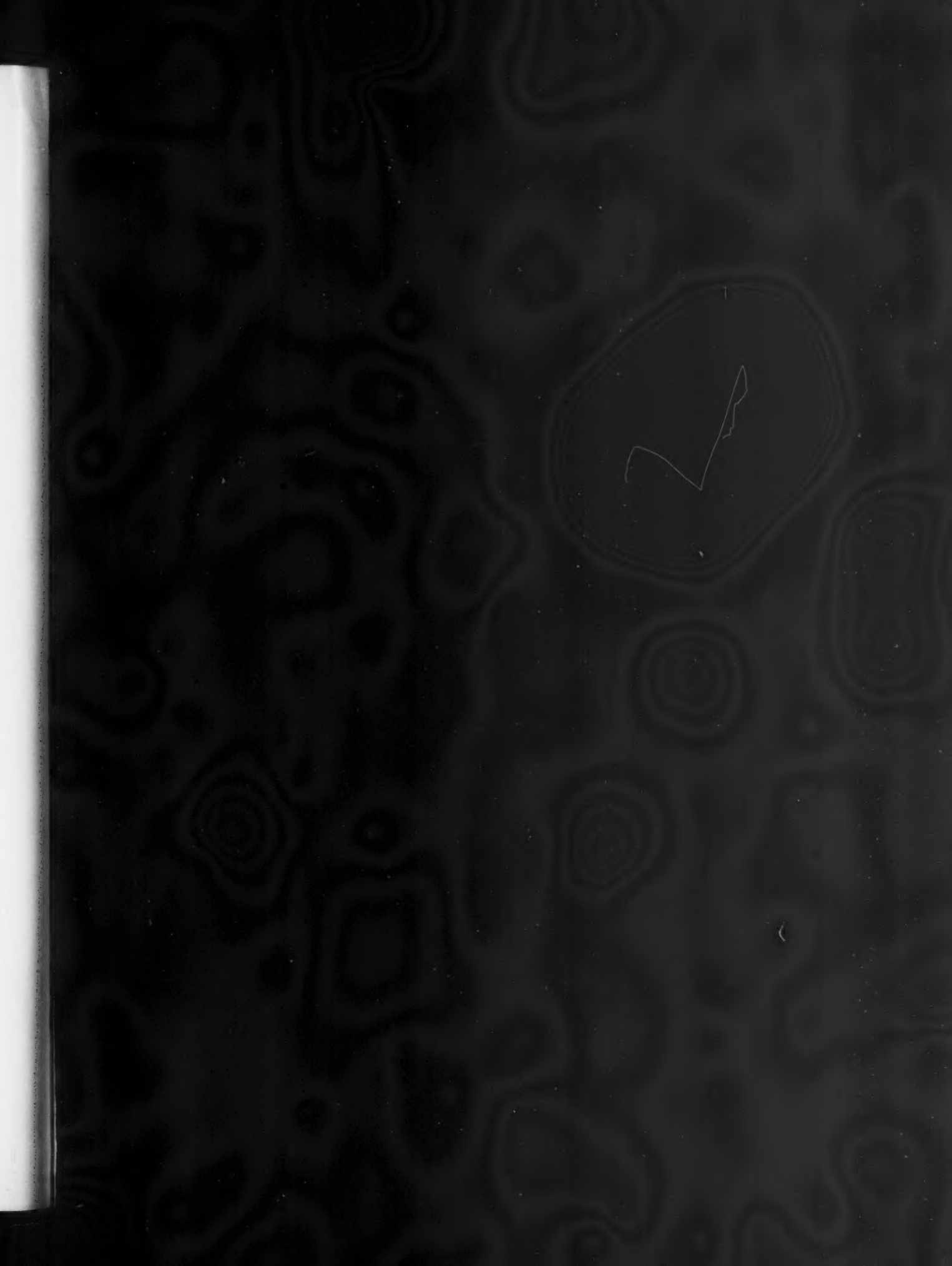
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# CONNECTICUT INDUSTRY

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L. M. BINGHAM, Editor

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## AN EPOCH-MAKING EFFORT

As those of our own state, and "their fellow citizens throughout the Union, and their friends over the borders and beyond the seas," know, Connecticut is celebrating the Three Hundredth anniversary of its founding—300 years of honorable existence, full of remarkable achievements.

Industry, which has been called the backbone of this great state, has had its part in the celebration of the event in various localities. Beginning October 2, industry as a whole is to have its opportunity to show our citizens and our visitors what it has meant and does mean to the country and to the world.

On that day, Connecticut industry, by groups, will exhibit the products of its ingenuity and its skill at the State Armory in Hartford.

Many years must necessarily elapse before this opportunity will come again. Every Connecticut manufacturing concern will want to joint with his fellow manufacturers in making this exhibit all that it should be.

It is the hope of the directors of your Association that everyone will participate whole-heartedly and earnestly in this epoch-making effort.

E. KENT HUBBARD

# FEDERAL LEGISLATION

**Congress Rests—Washington Hums.** Members of Congress have dispersed to the four corners of the nation after 235 gruelling days of work on an unusually broad range of important legislation. Of the large number of bills passed, probably 80% of the controversial ones in which the President was interested, were finally rubber-stamped after the manner of the good boy who wants to play again in a certain backyard (Washington backyard). Regardless of the rising tide of opposition evidenced stronger in the closing days of Congress, the President got practically what he requested. Bills were railroaded through with a minimum of consideration largely on arguments of political expediency in the spirit of "let-'er-go-Gallagher". The result was that Congress passed many laws which merely laid down principles in the rough, passing over the real responsibility to administrative agencies. Thus decisions made by these agencies will count far more than the laws themselves. The general talk is that Congress has spread a far too bounteous table for the digestive organs of administration; that the New Deal will stand or fall on the way it handles these administrative duties between now and the summer of 1936.

The facts are that few of these administrative agencies are now working at 50% efficiency, some of them being entirely ineffective. All this means reorganization, but for political reasons, it will be done quietly without "headline" noise—the practical way of a first class political leader like the President.

Washington is no less a busy place since Congress went home. It is teeming with activity on the job of putting new legislations into practical effect, and conditioning its "heavy artillery" to invade business territory with a new stimulus, which New Deal politicians naturally want to bring up to maximum effectiveness next spring and summer, to give the proper background for political utterances. It is general conceded in Washington that the Presidential campaign for 1936 has started and that all Washington activities from now on will be flavored with politics.

The big push on now is in gathering ideas that will link together to make a housing boom with a minimum of direct government spending. To do this R.F.C. will buy loans insured by F.H.A. reselling them to banking institutions, and banks will carry F.H.A. loans, under the terms of the new banking act, without having them counted against them as real estate mortgages. New plan to stimulate housing from the low cost type upwards is understood to be in process of shaping by Peter Grimm, one of the nation's most prominent real estate specialists.

The placing of a dead line on public works applications, requested by the President recently, marked another move to speed up job producing projects.

Business can't figure good clear sailing just because Congress has gone home; it may expect annoying statements on future policies unfriendly to business from the White House. The president has apparently cast his lot with the millions who have benefited directly or indirectly from New Deal spendings as opposed to views of organized business. In spite of all retarding practices recovery seems to be gradually on the way with moderate gains everywhere predicted during the remainder of this year.

The more important bills passed by the first session of the 74th Congress are as follows:

**AAA Amendment Act**, designed to place the farm program within the limits of constitutionality and to further

its effectiveness by raising farm purchasing power;

**Farm Credit Act of 1935**, designed to further assist the farmers in securing loans at lower interest rates.

**AAA Rice Amendment Act**, placing a processing tax on rice.

**Tobacco Inspection Act**, seeking to establish and promote use of standards of classifications for tobacco.

**Airmail.** Airmail Act of 1935, Airmail Contract Act.

**Bankruptcy.** Frazier-Lemke Farm Mortgage Act, Live-stock Bankruptcy Act.

**Commerce.** Coastwise Trade Act of 1935, Rail Extension Act, Railroad Reorganization Act, Wagner-Crosser Rail Retirement Act.

**Finance and Banking.** Banking Act of 1935, Deposit Insurance Extension Act, RFC Extension Act.

**Housing,** Home Mortgage Relief Act.

**Labor.** Employment Service Act, Guffey-Snyder Coal Act, Wagner-Connelly Labor Relations Act.

**Liquor.** Federal Alcohol Control Act;

**National Defense and Neutrality.** Air Engineering Duty Act, Army Promotion Act, National Guard Officers' Act, Naval Aviation Cadet Act, Naval Line-Officers Act, Naval Public Works Act, Naval Staff Corps Act, Naval Supply Act, Neutrality Act, War Department Supply Act, West Point Cadet Act, Wilcox Air Base Act.

**Power.** Tennessee Valley Act.

**Relief and Recovery.** Disaster Loan Act, NRA Extension Act, Work-Relief Act.

**Social Security.** Social Security Act.

**Taxation.** Nuisance Tax Act, Revenue Act of 1935.

Members desiring further details concerning any of the bills passed, may receive them upon request.

## ANNOUNCING THE NINETEEN THIRTY-FIVE ANNUAL MEETING of the ASSOCIATION

To be held at the  
STATE ARMOY  
Hartford

Wednesday, October 2

\* \* \*

FEATURING  
Preview of Industrial Tercentenary  
Exposition

\*

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Watch for later press and bulletin  
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# CHEMICALS

By L. M. BINGHAM

. . . Are the Alpha and Omega of you and me, the parts of every living or inanimate object in the Universe, twenty thousand leagues under the sea, in the bowels of the earth, the productive facilities of industry or commerce, or just plain money tempters in the market places of the world. They create and destroy, and in some elements flow from solid to liquid, to gas to solid, and back again under the influence of heat and the lack of it. Proper understanding and use of them is the hope of the world to emancipate itself from human toil and suffering. . . . To use them destructively in the fullest sense is to forever destroy the semblance of civilization.

*Editor's Note.* This is the 15th in a series of articles on the development of industries now existing in Connecticut. In the production of heavy chemicals—in fact all chemical products generally considered as such—Connecticut's rank in volume is low compared with many other states. But in certain specialties for which it has always been noted, it ranks high (rubber chemicals and embalming fluid). It shares also with its sister state, Massachusetts, the honor of contributing to the first beginnings of the chemical industry through the efforts of John Winthrop, Jr. At the head of the most potent factor for the advancement of the industry in America—The Chemical Foundation, Inc.—is a Connecticut man, Francis P. Garvan.

Acknowledgement of the valuable assistance in pointing out research sources and in furnishing actual data for the background of this article is given to Mr. E. A. Browne, U. S. Department of Agriculture, Arthur D. Little, Inc., Boston; David Newlands and F. P. Gilligan of the Henry Souther Laboratories, Hartford; J. P. Coe, Factory Manager, Naugatuck Chemical; Mr. C. N. Due, Assistant State Librarian; and Miss Mildred Potter, Librarian, Business and Technical Branch, Hartford.

CHEMICALS are all things to all men. They are the sum total of the Cosmos in which insignificant man sits dangerously perched on a speck of its wholly chemical dust (the Earth) thinking little of the terrific speed at which he travels while he works vigorously on infinitesimal globules of that dust, forcing one after another to give up its secrets for his greater comfort, enjoyment and longevity.

For almost countless centuries he stumbled in the darkness of ignorance. Born upon a planet out of all contact with any other inhabited worlds, he found no set of rules or loose-ends of a previous civilization to guide him in the accomplishment of even the simplest task. Himself but an insignificant chemical organism, of the infinitely complex organization of chemicals which surrounded him, he was not only wholly ignorant of his own reason for being, but equally unconscious and unconcerned with any problems deeper than self-preservation and perpetuation. As a savage he first appropriated what his eyes discovered. Caves, clubs and stones he used for protection, the latter two also to aid him in bringing down his food quarry. He used the skins of his animal prey to protect his own skin from the elements.

In the barbarous state, he adapted or improved what he found. Instead of accepting the cave as created, he enlarged and fortified it by digging it out and piling up the stones for his protection against animals, the elements and enemy tribes. Either he or his wife, probably the latter, wanted a new style in clothing and so fastened leaves to-

gether or pounded out bark to make new garments. Curiosity coupled with accident led to the discovery and the first crude utilization of copper, gold and other useful metals and precious stones. Wind through the trees was the earliest music which soothed the savage, but it played over strings stretched across a crevice for the amusement of the barbarian.

But civilized man, not content with the happenstance methods of his forbears, began to shape his own destiny by invention. He fabricated instead of merely discovering and fashioning.

All three stages of man's development are still present in the world after countless centuries of painfully slow evolution. They overlap, and civilized men may have reached the third stage of development in one field of action while lingering in the barbaric or second stage in another, or even in the first stage in a third field of endeavor.

## Discovery of Fire

Man's first step toward the conquest of nature was the accidental discovery of fire. How it was first discovered is a matter for conjecture. The discharge from a volcano might have started the first one observed by savage man; or sparks may have been generated while an ancient stone implement was being shaped, thus igniting some near-by combustible material. Regardless of the method, the discovery of fire marks the beginning of the home fireside, cooking, the arts and industries. To a considerable degree its discovery stopped the nomad roamings of prehistoric men because of the necessity of constantly tending the fires and the great difficulty in starting new ones. On account of this trouble in starting fires there grew up the practice of keeping a fire burning continually in some central place for relighting purposes. From this custom the central village fire came to be regarded as sacred and to be guarded by specially ordained persons as a religious rite. In fact the worship of Vesta, Roman goddess of fire and the hearth, was an outgrowth of the central fire custom. If the honored Vestal Virgins permitted the sacred fire on the altar before Vesta to go out they were severely punished. A new one was then rekindled only by the use of sacred instruments and elaborate ceremony.

Little wonder that primitive and barbarian man worshipped that first demonstration of a force or power that warmed him, made his food more edible, permitted food preservation for longer periods, melted queer metal (copper) from rocks which he hammered into tools and weapons, and in certain later military campaigns became a successful weapon itself.



Although fire was the first effective demonstration of the latent power of chemistry to preserve and destroy, the chemistry we have advanced so far today broke through centuries of mystery, "black magic"—the practice of alchemy—to take its first modern step toward the present miraculous developments only about a century and a half ago. Though fire preceded and made possible development of the arts and industries, it was the latter which took precedence in progress over further worthwhile advancements in the realm of chemistry where matter is reduced to its constituent atoms and then rebuilt therefrom into something entirely new and foreign to nature. In short, the minds of men proved to be far more capable of guiding the eye and hand in adaptation and invention than in the difficult field of painstaking experiment and the cataloging of matter in usable form.

### The Black Centuries

In one short article, it is impossible to reset all the rungs in the ladder of progress by which savage man pulled himself out of his dungeon of ignorance to create new dust from old in myriad colors and shapes—actually an improvement on Mother Nature's handiwork in many instances. It would take a book to sketch as much as the broad outlines; a small library to include the full story in



**INCOMING "Latex", or rubber in its natural state, arriving on the siding at Naugatuck Chemical, Naugatuck, Conn.**

detail. Here we only hope to light the way to a better appreciation of our surroundings and of that small and highly intelligent group of chemical researchers, teachers, and entrepreneurs with "intelligent money", who have rubbed the true "Aladdin's Lamp" that we may behold modern miracles everywhere.

Although subdivided into several smaller divisions called by other names, such as metallurgy, when applied to the composition of metals, chemistry, in truth, deals with the composition of all matter found on earth, in and above it. Since the ancient Egyptians were among the earliest races to make new discoveries concerning materials they could use to satisfy their increasing needs and give them comforts and luxuries besides, it seems fitting that the word *chemistry* should be partially of Egyptian parentage. *Chem*, an old word used by the natives for Egypt, meant "black", and was applied to that country because of the black, loamy soil. Although the full word *chemistry* is of modern origin, it comes from the word *chemi*. Some language specialists believe it refers to "the Egyptian art". Others believe that the original meaning of chemistry was

"the black art", because of the dark mysticism that surrounded the ancient and medieval scientists. The latter view is the more logical concept in view of the practices soon to be described.

We have noted how the ancient races made use of accidental discoveries in the use of materials. These were preserved only by rule of thumb, and the advancement they made was limited because they knew nothing of the actual nature of the changes taking place when they carried out any operation. Nor could they learn from other races because of the lack of communication. But strangely enough as we look back through history we find almost identical discoveries being made by different races of people living far apart, at almost the same time. In the none too distant future we shall undoubtedly learn more about the scientific transfusion of thought which will explain the reason for these almost simultaneous discoveries in unrelated countries.

Before the dawn of the year 1 A. D., races began to communicate with each other—exchange ideas. They built crude wooden ships to trade with each other. The Phoenicians, the oldest seafaring nation, were the first to carry on trade with many countries and to dispense much free information of one kind or another. The Greeks, who reached the height of their development from 15 to 20 centuries later than the Egyptians, borrowed or filched most of their knowledge from the older race. Wealthy Greeks sent their sons to Egypt to be educated by the Egyptian priests, then the Alpha and Omega of all things educational, whether it was in religion, art or industry. There was no science, merely the sprouts in art and industry that took root, centuries later, to give us modern science. The few secrets withheld from the Greek students by the priests, were obtained by the G-men of so-called Greek science and philosophy who traveled wisely in Egypt.

### The Alchemists

There came an era starting about the first century A.D. when the learned men of the day grew tired of the slow, painful method of learning practical methods of making materials for everyday use. They were bitten by the bug of get-rich-quick. Someone had the idea that a cheap metal could be turned into a precious one such as gold. To do this practically all other study was dropped and the learned men began a search for the mysterious substance (nature unknown) which would "turn the trick" of transmuting any cheap metal into gold. This vague and mythical substance for which all philosophers began fervent search was called the Philosophers' Stone. Every new material which this group of men could lay their hands on, underwent a thorough examination and was heated and hammered in the presence of lead or other cheap metal in the hope that the miracle transformation would occur.

Unlike our modern fads and crazes which ordinarily last only a few months, this almost wholly fruitless search by the best educated minds—called Alchemists—continued for more than 15 centuries. In all that time nothing worthy of mention was done to better the conditions of everyday life, nor was there ever a doubt that this mythical stone actually existed, if only it could be found. The wonder of it all is how a group of educated men could continue such a fruitless search for more than a score of generations without remuneration or any lasting reward in the form of accomplishment. The reason is simple, and its modern counterpart is to be found in present day philanthropic men of wealth who enter professions for the good they

may accomplish rather than the financial reward, and in the ranks of the technical men in government and privately endowed laboratories. Many of the alchemists had money and continued the search without recompense, while others were endowed by wealthy patrons who hoped to reap rich rewards from their investment. But the great majority of alchemists were retained as members of the king's court, for every king in Europe believed that one of his number would find the mythical stone which would turn great wealth into his own coffers.

To hold their jobs the royal alchemists were obliged to keep up appearances and therefore gave numerous performances before the king and the court, in which they turned numerous tricks with certain of the weaker acids (vinegar, earliest example) and brightly colored solutions. With these tricks and a few symbols for certain metals, the alchemist continued to convince his king that he was soon to discover a way for wholesale transmutation of metals such as he had apparently accomplished in a small way through the use of acids and coloring matter. Doubtless many of the alchemists were honest, mistaking chemical action, easily explainable today, for actual transmutation, but there were many others who deliberately practiced trickery and deceit to impress their patrons or employers. A few of the tricks of the dishonest alchemist were: the use of double crucibles; burying gold or silver in a piece of charcoal; covering salts of gold or silver in the bottoms of crucibles with a paste of crucible dust or wax which melted during the experiment; filling hollow end rods with gold or silver.

The alchemists of Henry VI were sufficient in number to keep a sizeable modern research laboratory going at full capacity, except for lack of knowledge. They fooled their king and doubtless themselves by producing quantities of a "false gold" by the simple process (now known to any first year chemical student) of placing blue vitriol in an iron crucible with a little water. Quantities of this "false gold" were turned into coin, but soon recognized as counterfeit and its circulation prohibited by the Scotch Parliament.

In his "Letters on Chemistry", Justus von Liebig, the great German pioneer of Chemistry, gives much credit to the work of the alchemists, pointing out the necessity for their indefatigable perseverance and constancy over a period of some 1500 years in order to bring into contact all known substances, organic and inorganic. He writes that the idea of the philosophers' stone as a means for transmuting the baser metals to gold, was spread abroad in Europe chiefly by the Arabians after conquering Egypt.

During the period when Bagdad and Damascus were the two chief centers of the commerce of the world there were no people more dextrous in trade, or more eager for gain and gold than the Arabs. The desire for gain then prevailing is preserved for us in tales and legends of the times. The writings of Pliny of the eighth century and of Geber give evidence of a chemical knowledge passed on by the Arabians to the north-west of Europe which excites admiration and wonderment. Previous to the invention of printing the discoveries of the alchemist were easily kept secret. He made them known only to others of his own profession. Descriptions of their labors which did not pertain particularly to the object of their search, were clear and intelligible, but the description of their labors pertaining to their objectives was propounded in an unintelligible, figurative language of mysterious symbols, which,

even in their own minds, contained only the faint dawn of an idea.

It is difficult to imagine how far developed the world would be today had the alchemists devoted all their energies toward straight scientific research instead of searching for the Philosophers' Stone. However, when they began to leave off their search for the stone around the 15th century to take up the new fad of finding the key to everlasting life or at least prolonging youth for a hundred years or more, they had attained one worthy achievement, that of making strong acids.

Geber, an Arabian alchemist of the 8th century was among the first to prepare an acid stronger than vinegar, the chief one known to the ancients. This was sulphuric acid, which was made from Geber's time up until 1746 by ignition of iron sulphate or alum, the two chief salts of this acid known to the alchemists.

The making of nitric acid, known at even an earlier date than sulphuric acid, was described by the Greek writer,



**FACTORY interior showing carboys and drums of chemicals ready to be shipped and in the background production facilities.**

Dioscorides, as the distillation of a mixture of saltpeter, blue vitriol and alum. It was then called *aqua fortis*, or strong water, as may be attested with vigor by any laboratory student today who chances to spill some on his hand. Glauber, a German chemist living from 1604 to 1668 was the first alchemist to prepare nitric acid by the action of sulphuric acid on a nitrate. He also made a preparation of crystalline sodium sulphate, now known as Glauber's salt.



Hydrochloric acid was first described during the late 15th century by Basil Valentine, a monk, who followed alchemy and made a number of important discoveries. After the introduction of sulphuric, nitric and hydrochloric acids the alchemists were able to turn metals and other minerals into solution and to produce a number of salts which they made use of in their investigations. They made their acids in test tubes while the acids of today are produced in large semi-automatic chemical plants, in quantities running into thousands of tons annually.

### The First Chemists

After the alchemists and the new faddists, who attempted for a short time to extend youth for a hundred years or more, came a group of scientific men who sought once more, after a lapse of 1500 years, to discover the composition and possible uses for all types of materials. To this class of common sense researchers the name chemist was applied.

Although Antoine Laurent Lavoisier, a French scientist, is considered the true father of modern chemistry, Robert



**NAUGATUCK** chemical plant facilities stretched out along the Naugatuck river, not a mile from the center of Naugatuck.

Boyle, an Irish nobleman, who lived from 1627 to 1691, was the first man who took a common sense view of the composition of materials. In that sense and from the results of his experiments, which later pioneers such as Priestley, Lavoisier and Scheele built upon, he was the first pioneer of modern chemical science.

Younger son of a member of the peerage having nothing to do, and with a strong leaning toward science, he set up a private laboratory shortly after reaching maturity. Disagreeing wholly with the vague and mysterious teachings of the alchemists, who named the substances after the planets, thinking their behavior was subject to the dictates of their patron planets, Boyle conducted experiments and came to the conclusion that all substances fall into two classes, called elements and compounds. His reasoning was based on the fact that certain substances such as iron, silver, lead and gold resisted all of his attempts to split them into simpler forms, while others were readily decomposed. The first he called elements; the latter compounds. By his conclusions he started chemical science in the right direction with regard to the actual composition of common materials. He also started the first common sense study on the behavior of substances. He classified all

elements and compounds known to him into three classes—gases, liquids and solids.

Joseph Priestley, an English theologian and scientist, and Scheele, a Swedish apothecary, gave new impetus to chemical development previously placed on the right road by Boyle. Both discovered new substances, the first of which was oxygen, credited to Priestley because he published his paper on it first, although admittedly made two years previous by Scheele. Of the two men, Scheele was by far the most prolific discoverer of hitherto unknown substances, among which were: chlorine gas, hydrogen fluoride, citric, tartaric, arsenic, nitrosulphuric, lactic, gallic, opalic and many others. He determined the nature of microcosmic salt, borax, Prussian blue, baryta and manganese. Among his long list of accomplishments for chemical science was the method which he worked out for the analytical separation of iron and manganese, which is still in use.

Then came Lavoisier, the French chemist, who discovered no new body, no new property, no natural phenomenon previously unknown; but his service to the chemical industry proved so great, because of his proper interpretation of previous discoveries through the introduction of quantitative experiments, that he is everywhere recognized as the "father" of modern chemistry. He was a contemporary of both Priestley and Scheele, being ten years younger than the former and one year the junior of the latter. Being of wealthy parentage he received a splendid education in the sciences, and when but twenty-three, he received a medal for the best essay on how to light a city. Later he started a model farm on which he demonstrated the advantages of scientific farming. He was instrumental in starting the first agricultural experiment stations; was made chief director of the government saltpeter monopoly, and in this latter capacity made numerous valuable improvements in methods of producing saltpeter and gunpowder. Sadly enough at the age of 38 he became involved in political difficulties and was guillotined three years later along with 26 of his associates. Said a writer of the French Revolutionary period shortly after Lavoisier's death, "It required only a second to take off his head, but it will take a hundred years to grow another like it."

### On the Road to Modern Chemistry

After Lavoisier had demonstrated by quantitative analysis and other experiments that substances behave in definite ways and never vary from that behavior, guesswork in the study of materials was gradually eliminated by trained chemists. From then on all scientists worthy of the name weighed the materials upon which they experimented and thereby were enabled to determine with absolute accuracy the outcome of any certain treatment of these materials.

From this point on, which was around 1790, chemists began in earnest to label the elements which today are completed to the number of 92. These comprise every known substance of which the earth, its vegetation, its inhabitants and the air are composed. The filling-in of names of certain of these elements did not occur until comparatively recent years because of the necessity for better methods of cracking those substances which had previously withstood all efforts to separate them. Now with all types of acid combinations, the extremely high heat attainable by the electric furnace and the high voltage mechanisms, the very atoms of substances are being torn to shreds. Rebuilding with these shreds, modern chemical researchers in partnership with modern engineer-

ing and economic operation of production facilities, are rapidly making a new world of materials out of the split fabric of the old. In addition they are working hand-in-glove with the medical profession in the discovery of chemicals to alleviate and cure disease.

One of the most astounding of these cures has just been discovered within the past sixty days in a solution principally chlorine in content, which was originally intended for the purification of water without the removal of certain physical properties of the water. It was tried as a substitute for Dakin's solution to cleanse wounds and found highly successful, in that it killed all bacteria without pain to the patient and without harming the surrounding flesh.

A New York doctor, hearing of its healing properties, ordered it given in olive oil to a colitis patient who had been given up to die within a month. To his utter amazement and satisfaction the patient was a well person within a week, since all bacteria had been removed, allowing nature to regain its natural perfect balance. The solution is used also for the rapid drying of printing inks so that there will be no lost time in waiting for the ink to dry. By taking the chemical, insulin, properly, sufferers from diabetes may continue to live until some other "bug" ends their days. Within the past year or two also astounding advancements have been made by the medical profession in relieving heart disease as well as in making a chemical injection which will start the heart organism going again after it stops, if the operation is performed soon enough after stoppage.

What more evidence is needed to show that the human race is on the way toward much longer, perhaps, "everlasting life" with the aid of its superior intellects?

The first of the modern chemical scientists were so absorbed in the destructive side of chemistry—tearing matter down and analyzing it—that they were practically blind to the vast importance of the constructive or building-up side of it. Berthollet, a renowned French chemist, was the first to see the double aspect of chemistry, for he defined it over 65 years ago as "the science of analysis and synthesis". Since his time the really great triumphs in chemistry have been won. During this period man has out-done Nature by re-grouping its elements to create a greater range of colors and "utility by synthesis" than was ever possible before with the use of natural products.

One prominent author of several books on scientific subjects, Edwin E. Slosson, says in his book on "Creative Chemistry", "Chaos is the natural state of the universe . . . Anarchy is the natural state of the human race. It prevailed exclusively all over the world up to some 5000 years ago, since which a few people have for a time succeeded in establishing a certain degree of peace and order. This, however, can be maintained only by strenuous and persistent efforts, for society tends naturally to sink into the chaos out of which it has arisen . . . It is only by overcoming nature that man can rise . . . Gradually then he will substitute for the natural world an artificial world, molded nearer to his heart's desire. It is by means of applied science that the earth can be made habitable and a decent human life made possible. Creative evolution is at last becoming conscious."

#### Great Prime Servants

Although there are 92 elements in the complete classification of matter, the first partial table being made public by a Russian chemist, only a small number of these

are utilized to any great extent in our present state of modernism. Doubtless we shall find highly valuable uses for the other elements as we learn more of their abilities to satisfy our never ending wants. However, these few now in use will continue to hold the center of the stage since they constitute the greater percentage of all matter. A few of these well known substances which are intermingled in our ever increasing list of daily necessities both in natural state and in synthesis are oxygen, hydrogen, nitrogen, sulphur, carbon, sodium, aluminum, chlorine, iron, chromium, zinc, copper, silver, iodine, tin, gold, mercury, potassium, phosphorus, silicon, lead, antimony, barium, manganese, vanadium, and platinum.

Of all the elements, the organic compounds upon which our life and living depend chiefly are: carbon, hydrogen, oxygen and nitrogen. The last two are as free as the air we breathe. Hydrogen is equally free when combined with oxygen in water but expensive to extract by means of an electric current. Carbon, however, is the element which we need in largest quantities. In certain forms such as in crystallized state (diamonds) which can be picked up in South Africa, it is too expensive for any other purpose than ornamentation or for some special commercial purpose where it is used in exceedingly small amounts for such purpose as glass cutting. The householder thinks of carbon in terms of charcoal and the collection of soot he must have cleaned from his chimney each year. It is a menace to health and property in large cities where large amounts of soft coal are burned, contaminating the air, clothing and requiring its costly removal from buildings. In a city like London, England, for instance, the collection of soot deposit (carbon) amounts to as much as 260 tons per square mile per year. To the operator of an automobile it is equally obnoxious because of throttling the power of the motor by accumulation in the engine cylinders.

While many features of carbon are obnoxious in certain forms, modern chemistry has made it far more a servant



VIEW of the first plant of Apothecaries Hall, Waterbury, Conn.

of man than his enemy. Doubtless the first artistic use of it was made by man when he used the soot from the dead embers of the fire in his cave and drew crude pictures on the stone walls, many of which remain to this day. Anyone with even the slightest capacity for appreciation of beauty must admire the blue of the sky and the glory of

sunset, which is almost entirely due to the carbon dust particles present in the air. In a large measure also is the gentle precipitation of rain caused by these carbon dust particles. For many centuries man knew nothing about the manifold uses of carbon except in the form of charcoal for fuel to melt metals and to use in the form of soot for artistic charcoal drawings. He failed to recognize a diamond as having any of the component parts of soot or charcoal.

The romance of carbon is a sizeable story in itself and space limits forbid the telling, except to enumerate a number of the more important uses to which it is put today through the combined skill of the chemist and the engineer. Coke largely replaced charcoal in England for iron smelting, in 1740, because of the scarcity of wood, as it did coal about a century later in America. Charcoal's chief use during the World War was in gas masks where it absorbed the poison gas from the air. For this purpose hundreds of tons of peach stones, coconut shells and the shells of South American nuts were found to make the proper type of charcoal to absorb all types of gases. Its unusual qualities of absorption by which it is able to condense gases and vapors within its pores or to remove and hold coloring matters from liquids, make it invaluable as a decolorizing agent in the form of bone black for refining sugar and for the extraction of gasoline from natural gas at the casing head. The absorbed gasoline is removed by heating the charcoal.

From coal, another carbon product, comes heat for homes which is also transformed into energy to operate great factories. By burning soft coal under pressure one ton of it will produce 1500 lbs. of coke, 11360 cubic feet of gas, 12.4 gallons of tar, 25 lbs. of ammonium sulphate and four gallons of light oil. Not to mention the commonly known uses for coke, gas, light oil and ammonium sulphate, the list of uses for the remaining residue of coal—coal tar—is in itself even too long to enumerate. Until recent years a brown smelly substance which tormented the coal gas manufacturer because of clogging his pipes, coal tar is today one of the most valuable by-products of coal.

The organic substances made from coal tar, such as benzene and naphthalene and numerous others not well known to the layman, are used as chief elements in the production of dyes; in many drugs; disinfectants; perfumes and flavoring extracts; insecticides and wood preservatives; explosives such as T.N.T. and its relatives; saccharine, 500 times sweeter than sugar; solvents used in lacquers and many other products; synthetic resins such as Bakelite, Pyralin, etc.; ammonium compounds used as fertilizers, for calico dyeing and printing industries; and as a most important refrigerant—ammonia.

Another series of carbon compounds found in petroleum and which can be removed by heating and collecting the fractions that come off at different temperatures are: light naphthas used to dissolve rubber, varnish and for aeroplane fuel; heavy naphtha such as gasoline; burning oils; intermediate distillates which are cracked up further to make them suitable for use as motor fuels and lubricating oils; vaseline used in salves and cream; the paraffin waxes; tar and coke, left after the volatile products are eliminated from the heavy distillates.

Carbon is the central element of the organic kingdom—the most closely related of all elements to life and energy. The known compounds of all other 91 elements are only slightly in excess of 25,000 while those of carbon number

some 200,000. Of all elements carbon is our most faithful servant through life even though occasionally troublesome in its more undesirable forms.

Nitrogen, the giver of food and the destroyer of life, presents an interesting study of an element which is a veritable Dr. Jekyll and Mr. Hyde. As one author puts it "Nitrogen is like Kipling's cat; it walks by its wild lone". It is an aristocrat of elements, mixing often with its own kind but cannot be trusted to mix with others for any length of time. Millions of nitrogen atoms may be living



**VIEW of the present seven story administration building erected by Apothecaries Hall Company on the same site as its first building shown on page 7.**

together peacefully in a gun cartridge. Suddenly there is a disturbance in the neighborhood, such as the flaring up of a grain of mercury, which causes all of the atoms of nitrogen to stampede. Hydrogen and carbon atoms absorb the oxygen, and the stampede of nitrogen atoms is on in earnest, giving the projectile in front of them such a terrific shove that it may go one mile, ten or sixteen, depending on the number residing behind it.

Thus nitrogen serves as a means of destruction. It is as free as the air we breathe but not usable effectively unless fixed in combination with other elements in the form of food, fertilizer or the destructive form just mentioned, so that it will perform for us a certain specific service as its atoms are set free. To do that is the job of chemists in laboratories working in conjunction with engineering talent—the first to point the way while the latter assist in working out the practical production equipment necessary for economic manufacture.

Nitrogen is one of the three elements of plant life which is not furnished in sufficient quantities by air and water and therefore must be supplied to the soil in compound



form to replace the deficiency caused by the constant absorption from plant. The other two elements which must be put into the soil by other than natural means in all other except certain types of virgin soil, are potassium and phosphorus.

For years farmers practiced rotation of crops and used manure and ashes to keep it in proper state of fertility by unconsciously renewing these three elements. Every third year pea-like plants were planted by some, then plowed under to add to fertility. Then the chemist joined hands with the biologist and the physicist, and together after herculean labors, have evolved good plant foods which they are constantly improving. Chemical companies are working toward a satisfactory combination fertilizer which will include the proper amount of the three elements essential to the soil, and one company has already placed such a compound on the market.

#### The American Scene—John Winthrop, Jr.

Under the sponsorship of The American Chemical Society, the American Chemical Industry this year celebrated three hundred years of chemical manufacture in America. It was able to do that only because John Winthrop, the younger, was a most versatile young man imbued with a passion for things scientific, and one who recorded the path he traveled so that we may today observe his progress from books, documents and letters on file at the Society Library in New York. Specifically he set up in the autumn of 1635, at Boston, what may be considered the first chemical establishment in America. In a modern sense it was not a chemical establishment at all, but a queer combination of druggists' shop, metallurgists' workroom, chemists' laboratory and den of an alchemist. However, within it were made experimental batches of alum and saltpeter, and from these experiments radiated a series of crude industrial enterprises designed to provide the colonists with chemicals, medicines and gunpowder and to exploit the mineral resources of New England.

Prior to this, in 1598, two Spanish accountants had made rough assays of silver ores at Jamestown, Va., and in 1608, also at Jamestown, eight unknown German and Polish workmen made the first crude industrial trials at making pitch, tar, glass and soap ashes. They are not given credit as being the originators of the industry any more than the inventor who fails to date his ideas, because they failed to leave any tangible personal evidence of their activities. John Winthrop, Jr., is called the "father" of the American chemical industry, not only because he catalogued his endeavors in that science (then really an art), but also because he was the first man of real chemical intelligence to visualize the importance of, and to cultivate the chemical industry on American soil.

Educated like his father at Edmunds Free Grammar School in London and at Trinity College, Dublin, he first volunteered for the expedition raised by the Duke of Buckingham to go to the relief of the protestants of La Rochelle. But after the failure of this venture he traveled for several years, chiefly in Greece, Italy and Asia Minor until 1629, as was the custom of the young aristocratic Englishmen of the day. In 1631 he came to America as his father's "assistant", a position which he held in 1632, 1635, 1640-1641 and again 1644-49.

His abundant energy coupled with unusual intelligence soon won for him a prominent position in the Massachusetts Bay Colony. He led the new settlement of Agawam (now Ipswich) in 1633 and in 1634 went to England to

represent the colonists in conference with English Puritans and to report on the encroachments of Dutch Settlers and the Pequot Indians along the shore line of Connecticut.

In 1635 he returned to Massachusetts, commissioned as Governor of Connecticut for one year by Lords Say and Brook. He then sent out a party which built Fort Saybrook at the mouth of the Connecticut river. Except for two trips into Connecticut at this time, he devoted his time almost entirely to the working out of his ambitious plans for developing chemical industries based upon the natural resources of the country.



LABORATORY interior at Apothecaries Hall Company plant.

Returning to England in 1641 for two years he represented the colonists unofficially in a number of negotiations. He also spent much of his time renewing old acquaintances among his scientific friends, among whom were numbered many of the leading British men of science. In 1645, after his return to Massachusetts, he received a large grant of land in eastern Connecticut on which he founded Pequot, now New London, in 1646. The next year he moved to Connecticut and became one of the magistrates. Ten years later he was elected governor of Connecticut, and was reelected every year thereafter, except in 1658, until his death 16 years later.

In 1661, he went on his third and final mission to England, when he secured from the King the famous Connecticut Charter. While there he also sold Connecticut built ships and became a member of the Royal Society. His paper "Of the Manner of Making Tar and Pitch in New England" was reported July 9 and registered July 16, 1662 in the Proceedings of the Society. It was the first contribution from an American before a scientific society.

While hurrying to a Boston meeting of commissioners of the United Colonies of New England in late autumn of 1675, he contracted an illness which ended his days in Boston April 6, 1676—just 200 years prior to the founding of the American Chemical Society.

The foregoing sketch of John Winthrop, Jr.'s activities is but the background for Winthrop's chemical and industrial interests. Even these must be sketched briefly because of space limits. Their mere enumeration alone would require all of the space available for this article.

One of the first strong impressions made upon Winthrop when he landed in Massachusetts was the desirability and

importance to the colonists of developing the natural resources of the country, especially that they might become self-sufficient in their supplies of iron and gunpowder. Not more than 18 months after arriving in America he sent to England for laboratory apparatus books and chemicals. Judging from the list of these chemicals, believed to have been the first ever imported into this country, Winthrop was not only practicing amateur medicine—at which he proved himself an adept—but also doing the very best he could with the imperfect chemical knowledge of the period to test his own metallurgical and chemical ideas. He was also building up the first scientific library in the colonies—270 volumes of which today are a part of the valuable collections of the Society Library of New York. Among these volumes are included books on pharmacy, medicine, mathematics, physics, mineralogy, navigation and 52 chemical books by such authorities as Paracelsus, Glauber, Basil Valentine, Dorn and Libavius.

For the first three years of his stay in Massachusetts he explored the native raw materials available for chemical enterprises. Upon return from his first trip to England he established his small combination experimental shop in Boston. While in England he had consulted with chemical authorities and manufacturers, such as they were in those days—scarcely more than alchemists in the primer of chemical knowledge as it is known today. He first produced saltpeter, then alum, potash, wood pitch, tar, indigo and other natural dye extracts. He set up industrial facilities for making salt, glass and iron, first in Massachusetts, and then in Connecticut. He had mines started to produce lead, tin and copper ore. Tests for industrial opportunities were constantly being made by him. Also Winthrop has the honor, if such it may be—of being the promoter of the first American chemical stock company.

In 1638 he built and operated a salt works on the north shore of Massachusetts Bay, near Beverly, and in 1642 secured the passage of an order of the General Court of Massachusetts decreeing that "as will perfect the making of gunpowder, the instrumental means that all nations lay hould on for their preservation . . . every plantation within the Colony shall erect a hous in length about 20 or 30 foote, and 20 foote wide within on half year next coming to make saltpeter . . . ."

After moving to Connecticut he devoted his energies entirely to the upbuilding of the colony. He started a salt works in New London and had an iron works started at the outlet of Lake Saltonstall near New Haven. In 1651 he secured from the General Assembly the first monopoly it granted on mineral rights in the state. Had minerals been abundant instead of scarce Winthrop would have been an exceedingly wealthy man. The monopoly, however, proved to be of little or no value.

After returning from his third trip to England, Winthrop continued to send back to the Royal Society papers on a variety of chemical subjects, and in addition carried on an unusually voluminous correspondence with his scientific friends.

So broad were his activities in government, science, medicine, astronomy and practical manufacture that John Winthrop, Jr., may be properly called the Leonardo da Vinci of America. He was not only the first resident of the North American Colonies to equip a laboratory, to establish a chemical library, to found many chemical industries, to establish a chemical stock company, to join a scientific society, and to publish papers upon chemical subjects, but he was also the first to create a chemical

museum. The high esteem in which he was held by his contemporaries was crystallized in a letter from Roger Williams from Rhode Island as follows:

"You have been noted for tenderness towards the bodies and infirmities of poor mortalls. You have bene tender too towards the estates of men in your civil charge of government and towards the peace of the land, yea, of these wild savages."

The Rev. John Davenport of New Haven also wrote as follows: "Many hands are daily at worke for the iron-business, onely your presence is wanting to sett all things in a right course".

Although over-optimistic in many of his enterprises in which he sought the physical upbuilding of the colonies through the proper exploitation of mineral resources, and although his adventures failed to win material success that his vision, courage and persistence merited, John Winthrop, Jr.'s was the first forward-looking chemically intelligent effort, made on the North American continent. He not only blazed a chemical trail, but in a very realistic sense was the builder of the first chemical outpost on the American frontier.

Because he was first of the Massachusetts Bay Colony, carrying on his first chemical operation in that territory, Connecticut cannot claim him in full, but on account of his later operations in this state, it shares with Massachusetts the honor of giving to the world the "father" of American chemistry.

Save for the enterprises which John Winthrop started and others of similar nature copied from them, there was no real chemical development in Connecticut until the Apothecaries Hall Company of Waterbury was started in 1849. Save for the making of sulphuric acid to the amount of one carboy a day in a plant established in Philadelphia, there were no appreciable advances made in chemical manufacture in the entire United States until within the past century. In fact the chemical industry of the nation did not come of age until it was forced to by the exigencies of the World War and the subsequent developments since that horrible debacle.

### The Chemical Foundation

One writer states in a supplement to the magazine "Chemical Industry" for May, 1935, published in celebration of the Tercentenary of the founding of American industry by John Winthrop, Jr., "The establishment of a self-contained synthetic chemical industry in the United States, is the only thing of substantial value which we got out of the war. Its establishment meant more to the American people than reparations or territory. It emancipated our research, our medicine, our agriculture and industries, employing millions of men and women and manufacturing billions of dollars of products each year, from the domination and oppression of the German chemical cartel. The value of this industry to the American people is inestimable."

The development of this American synthetic organic chemical industry was made possible by the late President Woodrow Wilson who gave his approval to the organization of The Chemical Foundation, Inc., to take over German seized chemical patents. President Wilson knew of the great importance of the synthetic organic chemical industry to the United States, because he was so well aware of the ends to which the Germans had gone in placing an embargo on the shipment of needed medicines, dyes and other chemicals to the United States in an attempt to force him





**VIEW of the method advocated by The C. B. Dolge Company, Westport, for stopping the spread of the common skin disease, "athletes foot" for which the company has developed a chemical solution.**

to side with Germany before America entered the war. He was so intensely interested that he insisted the Foundation be supplemented by the enactment of legislation which would place unusual tariff duties on dyes and related chemicals. His insistence upon this legislation was most intense, but at that, it was a long hard fight with the Germans and their Allies in this country using every device to prevent its enactment. A Mitchell Palmer, who, as Alien Property Custodian, directed the seizure and sale of German chemical patents to the non-profit Chemical Foundation, Inc., for use by the American Chemical industry, also suggested that Mr. Francis P. Garvan of Hartford, Conn., be appointed as his successor, and also made a head of the Chemical Foundation.

When Mr. Garvan became its president, he emphasized his understanding that the new organization was a public trust operated for the benefit of the people of the United States. This principle of public service which Mr. Garvan laid down for The Chemical Foundation has brought tremendous accomplishments which have reached into the health, the industry, the education, agriculture and the national safety of the American people. Under the sponsorship of the Foundation intensive research has been stimulated and supported, and the teaching of chemistry and chemical research in schools, colleges and universities, speeded up.

The stockholders of the Chemical Foundation paid a total of \$428,900 for their stock, of which some \$269,850 was paid to the Alien Property Custodian for patents, trademarks, copyrights, and the balance was used as working capital. No stockholder has ever received any dividend or repayment of any kind, and every cent received outside

of the bare office expenses has been spent in carrying out the obligations of the trust imposed upon it by President Wilson. The Foundation researches have been made to determine the cause, prevention or cure of a large number of diseases. It has assisted financially in the publication of many scientific magazines as well as distributing over 30,000,000 pieces of educational literature such as books and pamphlets. Large quantities of books as follows were distributed: "The Life of Pasteur", "What Price Progress", "Chemistry and the Home", "American Chemistry", "The Romance of Chemistry", "America Self-Contained", "A Bubble that Broke the World", "The Farm Chemurgic", and several others.

The story of how Germany surpassed England, France and all other countries in chemical developments is one packed with intense interest, too long for the telling here. However, from the mere knowledge that Germany's chemical industry enabled it to carry on the war with synthetic materials after its natural supply of essential war materials was exhausted, America has taken an object lesson in preparedness. Lack of medicine, a dye industry and many other essential chemicals in the development of industry in peace and war was also brought home forcibly to America when we were cut off from German supplies. Fortunately we have heeded that lesson and today boast of a chemical industry second to that of no other nation in the world and capable of making America, if need be, self-contained in all respects.

As the late Arthur D. Little, stated in his book "The Handwriting on the Wall":

"Chemistry, through research, has drawn healing and beauty from coal tar; ensured our food supply by producing nitrates and ammonia from the air; provided new metals and endowed with properties of greater usefulness the metals previously known. In these and countless other ways it has contributed to our well-being, opened the horizon of our minds, and enriched and prolonged our lives. It has developed great industries which are peculiarly its own, but chemistry pervades all industry. It is better control of matter, which offers to young men, just entering on their careers, opportunity to participate in those greater triumphs which are to come. Chemistry is a creative science, and the first chapter of its Book of Genesis is not yet written."

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*Editorial Note.* Following are individual histories of the heavy chemical producers operating in Connecticut, and mention of other producers of chemical products, which fall under different classifications.

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#### **NAUGATUCK CHEMICAL**

##### **Division of United States Rubber Products, Inc.**

The rubber industry was taking leave of the "art" era of rubber manufacture and entering stage 1 of the scientific period when Naugatuck Chemical Company was organized, in 1904, as a New York Corporation, for the purpose of manufacturing sulphuric acid for reclaiming rubber. From that time when E. C. Benedict was its president, and Matthew Adgate was superintendent, secretary and treasurer, until now is a period filled with progressive events in the development of heavy chemicals, which have found an ever increasing market in both variety and quantity, among the industries of this country, and many of those abroad.

Originally capitalized at \$100,000, the company was later reorganized as a Connecticut corporation bearing the

name of the Naugatuck Chemical Company. Since the Naugatuck Chemical Company furnished the acids for the reclaiming plant, established by the United States Rubber Company in November, 1892, in Naugatuck, it was only a logical and economic move when the U. S. Rubber Company purchased the Naugatuck Chemical Company in 1911, and shortly afterwards began the manufacture of intermediates and some rubber chemicals in addition to an ever increasing line of acids. In 1913 the operations of the reclaiming plant, then under the direction of W. T. Rodenbach, were turned over to the Rubber Regenerating Company, an Indiana corporation, first organized in Illinois in 1906, later in 1908 in Indiana, and purchased by United States Rubber in 1913. Up until 1929 the business of the Rubber Regenerating Company, both in its plant at Mishawaka, Indiana, and at Naugatuck was under the direction of the late E. A. Anderson, when the operations of the company was combined with the Naugatuck Chemical Company. The style of name was changed to Naugatuck Chemical, Division of the United States Rubber Products, Inc., in 1934.

The reclaiming plant at Naugatuck was first established because of the necessity for reclaimed rubber in the manufacture of rubber footwear, then the specialty of the United States Rubber Company, which was originally an association of 15 of the largest rubber footwear concerns in the United States. The Rubber Regenerating Company, was founded by Raymond B. Price on the basis of his discovery of a reclaiming process involving the use of alkalis instead of acids, formerly used exclusively in the process. Since the combination of both companies under the varying names of Naugatuck Chemical, both the acid and alkali processes have been used. Both remove cotton fibre from waste rubber articles such as tires or tubes. The acid process destroys the fibre by soaking in a solution of sulphuric acid, while the alkali process destroys the cotton by digesting it in large steam heated vessels in the presence of water and caustic soda. Although both processes produce the results of separating the rubber from the cotton, they produce different effects even when using the same source of waste. Accordingly one may be desired for one use and the other applied where a different effect is desired.

The third member of the Naugatuck Chemical family, now grown to an organization of some 700 persons at the factory in Naugatuck, with additional executives and sales people employed in the sales offices at New York, is the Dispersions Process, Inc., a company holding patents controlling the manufacture of aqueous rubber dispersions. Controlling interest in the company was acquired by the United States Rubber Company in 1929 when its management was turned over to the Naugatuck Chemical. This branch of the business produces rubber dispersions which may be either crude rubber or reclaimed rubber, either one of which may be compounded or otherwise processed as rubber goods or used in the manufacture of many other articles such as textiles, paper, automobiles, etc. The use of dispersion also bids fair to increase rapidly in connection with the many newly found uses for latex in its variable forms.

Affiliates of the Naugatuck Chemical are the Rubber Regenerating Company of Montreal and the Rubber Regenerating Company, Ltd., of Manchester, England, both now operating under separate managements, the Mishawaka plant being closed December 31, 1931 and all activities transferred to Naugatuck.

Compared with the chemical industry of the United

States as a whole which employs in round numbers some 250,000 persons, the Naugatuck Chemical is a small unit. However, in the broad diversification within the chemical industry, there are certain classes of products in which Naugatuck Chemical plays a leading role. These classes fall into distinct groups. The heavy chemical group are those ordinarily manufactured for use in very large quantities, including sulphuric acid, soda, fertilizers, nitrates and muriatic acids. These are supplied from Naugatuck to the brass and copper and other metal industries of New England and also used in the manufacture of a large number of organic chemicals for other fields. Associated with them may be included certain organic chemicals which are ordinarily handled in very large quantities, such as nitrobenzol or oil of mirbane and aniline. All of these are individual products, but chemically are closely associated since aniline is made from nitrobenzol, nitrobenzol from nitric and sulphuric acids reacting with benzol. Nitric acid is made with saltpeter with the assistance of sulphuric acid. A by-product known as nitrecake produced in the manufacture of nitric acid is used with common salt for the production of muriatic acid. Aniline, which is at the end of this series, is in turn the beginning chemical for the production of many other chemical substances. Heavy acids used both as pickling solutions to clean the surface of metal and give it the desired color are consumed in large quantities by the brass and copper and other metal working industries in Connecticut. Aniline and nitrobenzol, used as intermediates in the manufacture of dyestuffs are also produced and sold in large quantities.

Naugatuck Chemical, closely associated with the rubber industry from its organization, has been one of the pioneers in the development of special organic chemicals for the control of rubber in all of its manufacturing stages, and for imparting to it certain qualities now considered essential by leading rubber producers. Stage No. 1 of the scientific control of rubber was marked by the establishment of scientific departments and research staffs by the rubber companies themselves, where was obtained an abundance of hitherto unknown scientific facts. Scientific knowledge then replaced rule-of-thumb in rubber manufacturing.

After these laboratories had made considerable advances in the discovery and causes of and methods to resist the rapid deterioration of rubber stock, and had determined the special properties of rubber compounds for specific purposes, and the means of obtaining or enhancing them to increase the usefulness and the application of rubber products; discovered methods and materials for hastening reactions to increase production and reduce costs; and designed testing apparatus and methods for quickly and accurately measuring constituent and product properties for quality control as well as research progress, ingredient manufacturers and suppliers were faced with the necessity of installing rubber laboratories manned with scientists versed in the requirements of the rubber business, yet specialized in the technique of chemical manufacture and development. Thus stage number 2 automatically came into existence, and Naugatuck Chemical was the original pioneer. So gradually did this change-over from one stage to another occur that few people in the rubber industry paused to consider the extent to which this outside technical aid had grown, or give quantitative consideration to the large army of highly trained scientists and tremendous investment in experimental and working facilities that material manufacturers and suppliers are currently main-

taining for the advancement of the knowledge of rubber compounds.

In the development of these chemicals which have been responsible in a very large degree for the phenomenal improvement in the quality of rubber goods during the past 15 years, Naugatuck Chemical has maintained leadership. Because of the wholesale experiments and the results in the production of antioxidants or age improvers, we enjoy today a tire mileage of some twenty to forty thousand miles as against two to five thousand miles only a few years back. Some of these chemicals assist rubber in resisting the effect of light and air while others assist in resisting heat and reducing chances of cracking as in the case of automobile tire treads. Although used in very small quantities in proportion to the whole product the total amount used in the United States totals millions of pounds.

Other chemicals produced specifically for the rubber industry by Naugatuck Chemical are designed to accelerate the vulcanization of rubber, which not only shortens the time of vulcanization but improves the quality of the finished product. Practically all rubber manufacturers in the United States purchase accelerators or anti-oxidants or both from the company.

Comparatively recently Naugatuck Chemical has inaugurated the manufacture of aromatics and perfumes using materials from all over the world in the compounding of mixtures for perfumes and perfume bases, and in addition produces many aromatic chemicals by synthetically building them up in the chemical plant. In this business the company is associated with two houses in France and a third in Morocco. These two items are used by many industries, notably, rubber, soap, paper and clothing, to mask or modify certain natural unpleasant odors of natural products as well as to scent them in certain other instances.

The fourth class of Naugatuck Chemical products includes plastic resinous materials and varnishes which with one notable exception—Victron, are produced to meet specific requirements of individual companies. Victron, a synthetic chemical of comparatively recent development which looks like glass and feels something like transparent celluloid and which is somewhat related chemically both to rubber and certain aromatic chemicals, has proved itself to be of great value in electrical work, particularly for high frequency transmissions for which use it has no competitor because of its electrical properties and the fact that it can be readily machined. It is also being used in the manufacture of dentures for teeth.

During 100 years of development in the rubber industry no use was found for the rubber in its original form until about 15 years ago when the Naugatuck Chemical and its parent, United States Rubber Company, through a pioneer research, studied the chemical properties of Latex (rubber in its original form), the methods of gathering, transporting and modifying it, and has since developed hundreds of uses for it. During the past ten years the company has engaged in importing Latex from the U. S. Rubber plantation in Sumatra, constantly finding new uses for it, until now it accounts for tens of millions of pounds annually. Although it is being widely used in the rubber industry, Naugatuck Chemical sells even larger quantities to other industries for use in such items as upholstery, fabrics, paper, bags, boxes, automobiles and even clothing. It is now predicted that the volume of Latex used annually will eventually surpass that of other forms of rubber.

Reclaimed rubber, the original field to which this com-

pany sold its first product—sulphuric acid—is now made in large quantities from all manner of rubber scrap. To the uninitiated, reclaimed rubber is seen as an inferior product to crude rubber, but it is considered by rubber technologists as an entirely different material more suitable in many instances for manufacturing some types of products than crude rubber. Although it is generally cheaper than crude rubber, the price over a period of years has fluctuated only moderately as against the extremely broad price range of crude rubber. In fact during one of the recent years of low prices, the average price of reclaimed rubber in the United States was equal to or slightly above that of crude rubber.

As previously indicated Naugatuck Chemical touches the entire history of a rubber article from beginning to end. Latex is imported and compounded with various chemicals produced in Naugatuck for the purpose of accelerating vulcanization, improving, aging or even imparting the desired odor. Modified with home made chemicals, this Latex may be sold to a rubber manufacturer who makes an article from it, selling it in turn to the public, and when the article has been worn out it may be turned over to the junk man who in course of time sells it back to Naugatuck Chemical to be used in the production of reclaimed rubber. This reclaimed rubber may again be processed in Naugatuck in a manner which causes it to disperse in water and become an artificial Latex very much like the original imported from the plantation.

The technical growth of the company has been phenomenal, for, since 1927 it has enlarged its rubber and chemical research and control facilities in terms of annual budget increase of more than 500%. More than a quarter million dollar investment in experimental equipment and 20,000 square feet of ideal housing facilities, appropriately situated in 7 different buildings, provides an idea of the size of this scientific institution for the cause of rubber manipulation. The several divisions of technical activities conducted by the laboratories have an operating force of around 67 persons, 55% of whom are chemists and engineers with college degrees, while the remainder are partly technically trained men without degrees. In addition, 7 sound research men with assisting workers, direct their attention to Naugatuck Chemical problems with the general laboratories of U. S. Rubber Products, Inc., located at Passaic, N. J. A corps of 17 men, mostly thoroughly trained chemists, carry on the complicated investigation incident to Latex and rubber dispersions, which have little known chemical and physical peculiarities, and continue as well the search for improved understanding of these obscure factors, always addressing their work towards the discovery of Latex compounds and methods of compounding an application in the production of rubber products, and additional uses in many other industries. Because of the technical nature of the application of Latex to industrial use a special department of technical service is maintained for assisting the Sales Department.

In order to determine the right types of equipment for safe and efficient production of the many different manufacturing processes, Naugatuck Chemical has set up laboratory facilities consisting of all types of apparatus from the delicate kind used in the chemical laboratory to the full size chemical plant equipment, with every conceivable appurtenance or accessory for obtaining and controlling any desirable processing condition. Tests of all finished products of the company as well as many during intermediate stages are made by another group of some 25 men, approximately half being trained chemists. The company



also maintains a special rubber research laboratory and a re-claimed development department.

The factory operations of Naugatuck Chemical are under the direct supervision of Mr. J. P. Coe, factory manager.

### APOTHECARIES HALL COMPANY

In 1849 Dr. Gideon L. Platt opened a drug store on the triangular land between Bank and South Main Streets, facing Exchange Place in Waterbury and called it "Apothecaries Hall."

Today, 86 years later, Apothecaries Hall Company is doing business under the same name, on the same site, and with only such changes of ownership as the normal workings of business life and human death inevitably bring to pass in any enterprise.

Out of Dr. Platt's tiny venture has grown a great manufacturing, wholesale and retail business. From its extensive warehouses on Benedict Street, Apothecaries Hall Company of today distributes throughout Connecticut and New England immense quantities of chemicals, drugs, paints, oils, and other related commodities. The company has also branched out to include an anode foundry on Manhan Street, an extensive fertilizer plant at East Windsor, a division on Benedict Street where the manufacture of cleaning compounds and buffing compositions is conducted, while on the site of the original drug store opened by Dr. Platt there now stands a 7 story building of marble, granite and Roman brick, which, like the structure it superseded, is one of the city's most striking landmarks.

The selection of the name indicates the conception of the calling held by the founders. In England the old guilds which emphasized the service elements as well as the commercial, called the working places of their members "halls". Matters of concern to the industry were threshed out at the Guild Hall and many decisions of great moment were arrived at there. It was to perpetuate such a tradition that Drs. Platt and Fish settled, it is believed, on the name of Apothecaries Hall, the word "Company" being added upon incorporation three years later.

In 1852, Aaron Benedict and John S. Mitchell with several others joined with Dr. Platt in forming a corporation under the name of "Apothecaries Hall Company." Dr. Platt was the first president and Dr. Fish was the secretary-treasurer.

The company was originally capitalized at \$12,500. In 1854, this was increased to \$20,000 and the capitalization remained at that amount until 1916 when it was raised to \$720,000. The par value of the original 500 shares was \$25 each. At the present time the company has 7200 shares with a par value of \$100.

In 1873 the company purchased from the Farrell Foundry the property on Benedict Street where the beginnings of the present wholesale department were made. Here a railroad siding and the first unit of the warehouse system were built. Progress from that time until the middle nineties was steady and consistent.

In this period the retail branch of the business had outgrown the ancient structure on Exchange Place and the old building was demolished in 1891. The company was first housed in its new 7 story building in March, 1894.

Present day activities of Apothecaries Hall Company are exceptionally diversified and divide themselves into five principal departments: Manufacturing Department (Waterbury), Anode Foundry (Waterbury), Fertilizer

Plant (East Windsor), Wholesale Department (Waterbury), Retail Department (Waterbury).

In the warehouses, on Benedict Street, are stored some 10,000 items of merchandise. Buildings stretching over an entire city block contain stock ranging from tank cars of turpentine, gasoline and alcohol through chemicals, drugs and medicines, agricultural and dairy supplies, motor oils and lubricants, automobile accessories, candy, penholders, laundry pins and flower pots. It is a business almost unbelievably varied in its nature, serving the community in multifarious ways.

About 25 years ago, Apothecaries Hall started the manufacture of various chemical compounds for the application of chemical finishes on steel and other metals, and a short time later began the production of cleaning and polishing compounds. Also about the same time, agricultural insecticides were added to the line of production items, and in this line probably no manufacturer in New England exceeds the company's volume of business.

Although not a manufacturer of paint, in its handling of heavy chemicals, so closely related to paint, it has become one of the largest distributors of linseed oil and turpentine in New England as well as a distributor of paint for maintenance purposes.

The company owns the famous "Deloye Anode" patent, well known to all nickel platers, and originated the "Improved Deloye Anode", also the famous "Nucast Anode". It is represented in the sale of nickel anodes, cleaning compounds and buffing compositions by a number of jobbers throughout the United States. Through these agencies it supplies many of the largest automobile, stove and other manufacturers in various parts of the country and in foreign lands.

Forty miles away from Waterbury in the old town of East Windsor, is another of the Company's manufacturing divisions—the huge Liberty Fertilizer Plant. This plant stands nearly in the center of New England's most intense agricultural activity.

Research work done by the chemists in the laboratories of the Company, very often in collaboration with the State Experiment Stations, results in a unique service to the farmers of New England.

During the 86 years of its existence, Apothecaries Hall Company has never known any labor trouble. It employs around 150 persons. Many of the employees have held their positions for more than a quarter of a century. A group insurance policy is in effect and in addition, the employees are privileged to take out a separate policy provided for them by the Company on which they pay a low price.

The present officers are: Isaac P. Kellogg, president; Levi Wilcox, secretary; Evan H. Jones, treasurer and Clark W. H. Newton, assistant treasurer. Respectively they have served the company since 1901, 1897, 1898 and 1904.

### AMERICAN CYANAMID COMPANY

The American Cyanamid Company was founded nearly 30 years ago to develop in America the cyanamid process for the fixation of atmospheric nitrogen, the initial product of which is calcium cyanamid, principally used in the production of fertilizer. Thus the company's earliest development occurred as a supplier of nitrogenous material to the American fertilizer industry and later as a producer of "Ammono-Phos" the registered name of the first highly concentrated chemical fertilizer.

Although this company is not primarily a Connecticut organization, since its original plant is located at Warners,

New Jersey, it is here included because of its acquisition of The Kalbfleisch Corporation which had one of its plants in Waterbury, Conn. From this original production of fertilizing chemicals, through merger of a considerable number of related but non-competing units, the American Cyanamid established a diversified chemical business of which the fertilizer branch, now represents only a minor percentage of the company's total production and sales.

It now operates directly or through subsidiary companies, 28 American plants in 19 states and employs 6,500 American workers. Its present list of chemical products includes all chemicals used by practically every type of American manufacturing establishment, in which are included agricultural, mining, textile, paper and pulp, paint, varnish and lacquer, leather, rubber, metal, oil refining, soap, oilcloth and linoleum, glass and ceramic, dry color, printing ink, adhesive, plastics and numerous others. A columnar listing of its products requires about 26 pages of a 4 by 9 inch pamphlet, which gives some idea of the magnitude of the company's products produced chiefly by its principal present day units as follows: The Calco Chemical Company, Inc., Bound Brook, N. J.; Heller and Merz Corporation, with plant at Newark, N. J.; the Kalbfleisch Corporation, with plants at Erie, Pa., Chattanooga, Tenn., and Waterbury, Conn.; A. Klipstein and Company; the Shelden Company; Structural Gypsum Corporation, Linden, N. J. and John C. Wiard and Company. With the exception of the Calco Chemical Company and Structural Gypsum Corporation all of these divisions of the American Cyanamid Company have their main offices in New York City with a large number of branch offices in other cities of the United States and Canada. The company's engineering division, organized in 1914, is known as the Chemical Construction Corporation, which has acquired a nation-wide reputation as designers of acid and fertilizer plants. Included recently in this division is the engineering group which developed widely accepted Nitrogen Engineering Corporation processes for the production of synthetic ammonia and synthetic methanol. Each of these divisions of American Cyanamid were originally merged because of some outstanding contribution in certain chemical fields of production.

The Calco Chemical Company originally started as a dye-using textile company—the Cott-a-Lap Company founded in 1900, in New Haven, Conn., and later moved to Somerville, N. J. in 1909—now manufactures principally dye stuffs and intermediates. Before being merged with the American Cyanamid Company in 1928, and since, the Calco Company acquired the business of 19 manufacturers of dyestuffs.

The A. Klipstein and Company, formed some 70 years ago as an importing company, was a pioneer in the field of tanning, supplying synthetic tanning materials to that industry, as well as sizing compounds, sulphonated oils, and penetrants to the textile industry.

The contribution of the Shelden Company division is in the field of organic acids, its low cost product being due to its contribution in the field of catalytic chemistry.

The Kalbfleisch Corporation, a primary interest in this article since it is the only division of the American Cyanamid to have a branch in Connecticut, was started originally in 1829 by Martin Kalbfleisch, a young immigrant and son of a substantial burgher family of Flushing, Netherlands. He landed in America in 1826 after taking chemical lectures in Paris, with a definite objective in mind of becoming a manufacturer of chemicals. At the

time practically all chemicals used by America's, then infant industry were shipped from England. Dame Fortune smiled upon this young immigrant, only 25 years of age, since he landed the position of assistant superintendent of the New York Chemical Company which had just been organized by a group of New York merchants to manufacture sulphuric acid, blue vitriol, lead acetates and other chemicals. Within a year after demonstrating his capabilities, he was placed in charge of the enterprise. After 3 years of wide contact with a group of influential citizens and broad practical experience and an accumulation of his earnings, he bought some cheap land in Harlem near his home, building a tiny wooden plant, where he started to produce paint pigments. Six years later after a slow but painful growth he sold both his home and factory and moved to Bridgeport where he struggled for 5 years against the handicaps of geographic location away from his market. However, as a result of this struggle, he developed sulphuric acid which led him into the manufacture of various sulphates, other mineral acids and their salts.

Returning to the metropolitan area in 1840 he established himself in a new and larger plant at Greenpoint, Brooklyn, where he continued to develop acid and salt processes by the use of the equipment he had originated in Bridgeport. Believing that sulphuric acid was the corner stone of all chemical operations he early determined to make pure, and the strongest sulphuric acid that could be produced. With this end in mind he started with pure brimstone and made an endless study of the reaction, equipment and the control of this basic chemical process, the result being that the Kalbfleisch sulphuric acid had soon established a reputation for itself which the company still regards to this day. By 1850 the chemical works of Martin Kalbfleisch moved to what was then the most modern and largest chemical plant in America between Metropolitan and Grand Avenue in the town of Bushwick, Long Island. Between that date and 1869 when Martin Kalbfleisch retired, the company continued to expand rapidly. Martin Kalbfleisch left a bold and distinguished impression upon the civic development of Long Island, having served in numerous civic positions including mayor of Brooklyn, and just before retirement being offered the Republican party nomination for governor of New York. In 1869 the management of the company fell largely to his younger son Franklin H. Kalbfleisch, then 27 years of age.

Withal, lacking the political finesse of his father, being a rugged individualist, with uncompromising singleness of purpose, he soon proved his ability in operating the company's large plant and in addition handling his father's large estate. However, overwork and the shock of loss of his two children forced him into retirement with a nervous breakdown in 1880. After 5 years away from business, during which time he travelled widely in Europe, he returned as a man over 40, to open a sales office for chemicals at 19 Liberty Street. Within the next 5 years he was operating two chemical plants. Continuing to expand he acquired the Erie Chemical Works, the Anatron Chemical Company, and the two plants of Joseph Binns Chemical Company, one of which solicits our particular interest because of its being in Waterbury.

During the war, with wholehearted patriotism, Mr. Kalbfleisch turned over his entire facilities to government munitions making, to the despair of his salesmen. Amid the hurly-burly of war activities, he brought into the business a younger executive—Mr. Harry L. Derby, who became his successor upon his retirement in 1920, and who



today is president of the American Cyanamid Chemical Corporation.

The Waterbury plant now manufactures muriatic, nitric and sulphuric acid; iron-free sulphate of alumina; Glauber's salt; rosin size and liquid chloride of alumina.

#### THE C. B. DOLGE COMPANY and EMBALMERS' SUPPLY COMPANY

In 1849, Carl Bruno Dolge, young German wood engraver and chemist, immigrated to America and for a number of years was associated with the Dolge felt-making enterprises in Dolgeville, New York, where felt slippers were first made. Within a few years he became deeply interested in his many experiments in order to discover better methods for preservation of the dead and those that would improve sanitation. By 1884, he began the production of embalming fluids. Most of the fluids produced at that time were crude arsenical mixtures. Mr. Dolge then began experiments with formaldehyde fluids for embalming which was long before state laws forbidding the use of poisonous fluids were passed.

In 1887 he founded the Embalmers' Supply Company in Brooklyn, later in 1892 starting the factory and offices of this company in Westport. Soon afterwards came the introduction of formaldehyde fluids by the company—a development which revolutionized American embalming practice.

Meanwhile, Dolge sanitary supplies—disinfecting and deodorizing solutions—were being so well made and winning so much favor that a separate company—The C. B. Dolge Company—was formed for the production and marketing of these materials. The disinfectants in general use at the time the C. B. Dolge Company was organized were in the main druggy-smelling compounds. Visualizing a vast market, the company pioneered in the development of odorless and fragrant disinfectants and deodorants. It was a long, hard, up-hill pull, for the popular feeling was that a disinfectant should have a pungent odor in order to be effective. However, the rapid progress made by the company under the direction of Karl A. Dolge, its president, and Arthur H. Dolge, vice president and treasurer—sons of the founder—give outstanding evidence of their success in securing public acceptance of the new type product.

Subsequently, the skill which enabled those technicians to make superlative disinfectants, was utilized to develop insecticides, cleaning materials, liquid soap, floor finishing materials, weed-killers, rodent destroyers, worm eradicators and other materials for the maintenance of sanitation and cleanliness in buildings—for beautifying grounds—and for general pest extermination.

Although Embalmers' Supply Company and The C. B. Dolge Company produce their products in separate plants, and have separate selling organizations, both firms occupy the same general offices. There is a spirit of friendly rivalry motivating the two companies, as one is continually striving to outdo the other—which is probably responsible for the advances made by both. Both companies work under the policy laid down by Carl Bruno Dolge—"KEEP UP THE QUALITY", and therefore will not introduce a product until its valuable characteristics have been proved beyond doubt.

The most recent development of the C. B. Dolge Company is a chemical preparation for the prevention of the spread of athlete's foot, a most common skin infection.

#### THE HOLMERDEN COMPANY

This concern was established in 1927 at Stratford, Conn., by a small group of men who had previously been employed by concerns engaged in a similar line of business, that of producing sanitary chemical products and janitors' supplies. In spite of the past 6 depression years, the company has had a continuous growth and has just recently established a branch plant in Coraopolis, Pa., in order to better serve the trade in the Middle West.

In its laboratory the company is continually making experiments on improved methods of floor preserving and finishing as well as carrying on others with a view of improving their other products such as disinfectants and insecticides.

The company's method of distribution is through the institutional consumer trade and to some extent with retailers. Between the two plants approximately 30 salesmen are employed in the sale of the company's product. To facilitate distribution, The Holmerden Company has established its own trucking service between the two plants as well as delivery trucks for local distribution.

The present president of the company, Mr. John E. Holloway was formerly a sales manager of a similar industry, Messrs. Harry M. Merwin, treasurer and Perry T. Merwin, vice president, were salesmen for a chemical concern. Robert W. Dennis, secretary, has charge of the Laboratory and Production Departments. Second Vice President, Ray C. Jones, is manager in charge of the Coraopolis plant, and was formerly a salesman for a similar line of products.

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*Editor's Note:* Strictly speaking the histories of the Stanley Chemical Company and Zapon Company which immediately follow should be classified under "Lacquers and Paints" or some similar title, but on account of neither concern dealing exclusively within this latter category, their histories are included in this story of heavy chemicals.

#### THE STANLEY CHEMICAL COMPANY East Berlin, Conn.

Observing the sizeable losses occurring in the everyday routine of a large manufacturing company with which he was then connected, William S. Rowland, chief chemist at The Stanley Works, New Britain, Conn., started a small plant for the recovery of metals in 1911, in Forestville, Conn. A few years later larger quarters were secured in New Britain and within six years an additional branch in East Berlin, Conn. One after another new buildings were erected at East Berlin, and by 1923 all operations at the New Britain plant were concentrated there. Today 78,000 square feet of floor space, mostly in one story buildings, is occupied for factory and experimental operations, which spreads out over an area of approximately ten acres, leaving eighteen acres available for expansion.

Like the creation of a butterfly, business of The Stanley Chemical Company has evolved from one stage to another. Beginning operations with the recovery and treatment of non-ferrous metal wastes the Company later developed a line of maintenance paints and another which may be termed household chemicals, such as cleaners, polishes, waxes and numerous others in the same category.

Always on the alert for outstanding opportunities, the Company's research development department, about 1925, centered its attention upon the fertile field of industrial coatings including lacquers, synthetics, enamels, and so forth. From then on the Company has concentrated to a

great extent on the development of all types of industrial coatings. Growth in three directions has expanded the organization until today the Company consists of three separately operated divisions from the standpoint of manufacture, research and sales.

True stories of the accomplishments of the Company's industrial coating salesmen working in combination with the eight laboratory chemists, would have been far more practical and entertaining reading during the early part of this century than any of the fictitious situations created by Horatio Alger and the author of the "Rover Boys". During this early period when young America was gorging itself with the mystery dime novel and other allied fiction, the numerous accomplishments of The Stanley Chemical Company's industrial coatings division would have seemed nothing less than miracles. Today when truly educated minds are open to accept any accomplishment without undue surprise, even these would-be miracles of an earlier day, do not fail to bring the best intellects to a state of attention and appreciation, and lesser minds to stark wonder and amazement.

As a typical example of such accomplishments, take the humble, shapeless overshoe of yesterday. Women had been made style conscious by practically all makers of wearing apparel, save the rubber manufacturers. Thought a sales manager of a large producer of rubber overshoes while doing some serious thinking over a statement of declining sales figures, "We have got to make these things look like different grains of leather—put style in 'em. They must have a coating to make them feel like leather, to prevent marking and to provide the desired lustre. The coating must be permanently flexible and retain its appearance even though the rubber is stretched and distorted every time it is put on over a shoe." He played with this thought for some little time—talked with his associates. Then he chanced to meet Mr. E. H. Christ, Sales Manager of The Stanley Chemical Company.

Mr. Christ took the problem to the staff of the Company's research and development departments. They worked on it for several months, but finally produced a lacquer coating for brown and black rubber shoes which would stand any amount of stretching and contracting, and which would give the overshoe the appearance, feel and characteristics of different types of grain leather. The result is that today milady has taken a renewed interest in rubber footwear which not only protects but is stylish as well.

Numerous other manufacturing problems in making industrial colored coatings a distinct asset to products, each quite as interesting as the example of the rubber overshoe, could be told here if space permitted. For instance thousands of gallons of clear and colored lacquers are used annually on products smaller than a silver dollar, and there in many instances must stand especially rough usage with the finish remaining on the product throughout a normal colorless life.

Starting about 1927 with one salesman, Mr. E. H. Christ, The Stanley Chemical Company has gradually expanded its activities in the industrial coatings division by hiring one man after another and training him until now the Company has eight such men calling on manufacturers throughout New England and the East, not just to merchandise industrial coatings but with a view of working out some new coating problem definitely associated with the acceptability of a new product or the wider acceptance of an old one.

The present officials of the Company are William S. Rowland, President and W. J. Kerin, Secretary and Treasurer.

## THE ZAPON COMPANY

The Zapon Company of Stamford, large producer of lacquers, leather cloth and rubberized materials, is the successor of the companies which originated lacquer and leather cloth in the United States, namely: The Frederick Crane Chemical Company; Tannette Company; and the Evans Artificial Leather Company.

The Frederick Crane Chemical Company, of Short Hills, New Jersey started in 1889 to experiment with the production of imitation leather from a pyroxylin base. So successful were these experiments that the company decided to erect a plant and install apparatus for the manufacture of such a product. Just prior to the combine of the Frederick Crane Chemical Company and the Celluloid Varnish Company to form the Celluloid Zapon Company, it was decided that the "Artificial Leather Department" should not become a part of the new organization. Thus was formed the Tannette Mfg. Company which began operations in a new plant erected in Bloomfield, N. J., for the exclusive production of Leather Cloth. For almost three years The Tannette Mfg. Company tried to make leather cloth uniform but failed, and the manufacture of imitation leather was then brought back to the Short Hills plant where a uniform product was soon developed and manufactured.

Realizing that their business would seriously suffer with this new superior product on the market, the Evans Artificial Leather Company of Boston negotiated and secured the exclusive use of this new compound, or pyroxylin dope, which was shipped to them to be spread on cloth. After several reorganizations in the field of leather cloth manufacture, in which the dope was made at Short Hills and shipped to Boston first and then New York for manufacture, and after being consolidated into the Zapon Company, they were in 1904 transferred to a newly erected factory in Stamford.

The lacquer end of the business was in truth an outgrowth of scientific experiments which began in the middle of the 19th century, in which a number of scientists living in this country and abroad were earnestly engaged in search for a commercial use for nitrocellulose. One of these, Richard Hale, discovered that by dissolving nitrated cotton in amyl acetate he could obtain a liquid which, when brushed on clean metal, would prevent it from tarnishing—yet, being of extraordinary thinness and great transparency, would be practically invisible. This happened in 1880. In 1884, Richard Hale, together with his son-in-law, Frederick Crane and Leonard Richards, formed the Frederick Crane Chemical Company at Springfield, N. J., to manufacture and sell lacquer for finishing plated goods, brass beds and metal ware—called "Zapon", given this name because of the Japanese pronunciation for the then prevalent name for metal finishes called "Japans". It was about this time that the trade-mark showing the word Zapon in a diamond was adopted.

Several years later, the company name was changed to "Celluloid Zapon Company" and the factory moved to Stamford. In 1917 the Zapon Company's stock was purchased by the Atlas Powder Company of Wilmington, Delaware (Atlas Powder Company and subsidiary companies have no connection, directly or indirectly with any other manufacturer of the explosives or lacquers.)

The history of lacquer dates back before the Christian era when the Chinese and Japanese and the Hindus discovered its value and wonderful beauty when used in various ways to achieve remarkable, artistic and everlasting effects. They used a very slow and painstaking process of producing it from vegetable gums as opposed to the modern nitrocellulose product, made as previously mentioned.

Lacquer may be defined as a hard, transparent film put on metal, in liquid form, to prevent the atmosphere and the elements from tarnishing or oxidizing the surface or finish and to enable the metal and finish to give better and longer service. When applied to wood it imparts a beautiful and enduring weatherproof finish, preventing dampness or atmospheric changes from making the wood warp or swell, eliminating the possibility of the finish cracking or checking. These in brief are lacquers, more general uses, but actually all uses of lacquers are so varied and manifold, and so many new ways are being found for its use daily that literally volumes could be devoted to a mere presentation of uses. Broadly speaking there is scarcely a manufacturing business today which cannot profitably use lacquer in connection with its product or adding to them one or all three of the following: beauty, longevity and greater consumer acceptance.

All material used in Zapon lacquers, leather cloth and other rubberized material is under complete chemical control from the start to the finish of manufacture, most of the latter being done automatically. Goods are shipped only after exhaustive tests have been made of the finished product. To name a few uses for the company's products we enumerate: jewelry, silverware, dolls, novelties, buttons, hooks and eyes, hardware, electrical goods, machinery, tools, suspender buckles, lead pencils, pen holders, all kinds of furniture, pianos, typewriters, corset and shoe eyelets, fish lines, etc. Zapon leather cloth is used in auto tops, book binding, loose-leaf note books, furniture and automobile upholstery, luggage and novelties. Annual capacity of this cloth in many colors and finishes of various designs is in excess of four and one-half million yards. Rubberized fabrics are made in single and double texture for various purposes, the principal use being for auto top material. Annual capacity of these goods is in excess of 1,500,000 yards.

The factory site at Stamford includes 15 acres located on Long Island Sound. Around 250 men are employed. Leonard Richards is president and general manager and M. J. Creighton is assistant general manager.

*Editor's Note:* The following list of companies are all in a sense engaged in the chemical industry in Connecticut, but have been classified under specific branches which we hope to present in story form in future issues.

The companies and their classifications are as follows: FERTILIZERS, Berkshire Chemical Company, Bridgeport; U. S. Gypsum Company, Falls Village; Rogers and Hubbard Mfg. Company, Middletown; New Haven Rendering Co., New Haven; Olds and Whipple Co., Hartford; New England Lime Co., Canaan; DRUGS, Charles E. Phillips Chemical Co., Glenbrook; McKesson and Robbins, Bridgeport; COSMETICS & SOAPS, Pond Extract Co., Clinton; E. E. Dickinson Co., Essex; J. B. Williams Co., Glastonbury; Orford Soap Co., Manchester; The Skat Co., Hartford; the Packer Mfg. Co., Mystic; PAINTS, Tredennick Paint Mfg. Co., Meriden; Bissell Varnish Co., Bridgeport; Parker, Preston & Co., Inc., Norwich; Baer Brothers, Stamford; R. J. Sisk Mfg. Co., New London; Keeler and Long, Waterbury and others mentioned previously in the

article; TOOTHPASTE, The Kolynos Company, New Haven and Sheffield Dentrifice Company closely related to the Tracy Company and New England Collapsible Tube Company of New London.

The General Chemical Company with its branch plant in Bridgeport, is classified with the heavy chemical group, but no history of the concern could be secured in time for inclusion in this article. The same is true of the DuPont Company's branch at Fairfield which produces a line of imitation leather or leather cloth as well as rubberized materials. McDermid Inc., of Waterbury, produce a line of metal polishes. The N. E. Chemical Company of Norwich, produce a dye for the textile industry. Dip-It, Inc., of Stamford makes consumer dyes, the packages being sold direct to stores for household use. The Connecticut Coke Company of New Haven produces gas for lighting several cities in the state as well as coal tar, the dye base—all by-products in the production of coke. M. Backus & Sons, Inc., is exclusive producer of fireworks in the state while the Ensign Bickford Company of Simsbury makes explosives and fuses for blasting purposes.

### THE GRASSELLI CHEMICAL COMPANY

*Editor's Note:* The story of the Grasselli Chemical Company is not one of manufacturing history in Connecticut since it does not produce in the state; it is a part of the commercial structure since it has large warehousing facilities in New Haven from where it serves manufacturers in Connecticut and New England.

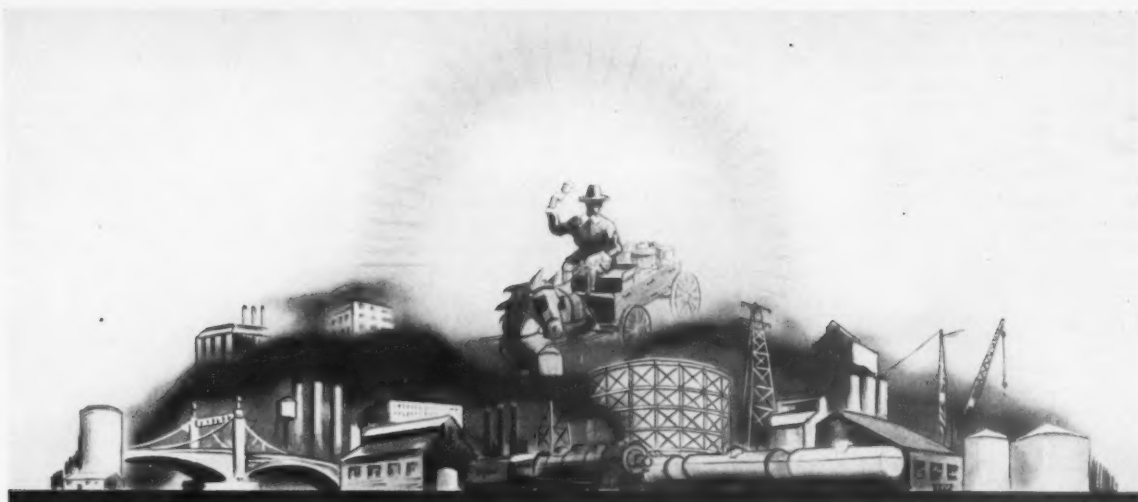


Eugene Grasselli was one of the early pioneers in the chemical field, beginning to produce sulphuric acid at Cincinnati, Ohio in April, 1839, when that city boasted a population of 42,000 inhabitants, and when the country was plunged into a business depression. Despite these handicaps the Grasselli industry expanded to make other acids, soda ash, and alum. To gain a more advantageous location, the Grasselli Company constructed another plant at Cleveland, Ohio in 1866 from which large quantities of sulphuric acid were shipped to the refiners of petroleum. Keeping step with the expanding industrial growth of the nation, Grasselli produced chemicals to meet these demands as they came one by one. To the line were added in 1877 nitric and mixed acids, and from that time on almost a countless number of chemicals have been added which are used by such industries as brass, textile, paper, paint, rubber, battery, glass, sheet iron, tin plate, steel, domestic appliance, and a great number of others.

Through their large research laboratory, the company has constantly kept pace with the rapid growth of industry, producing such chemicals as these industries require

(Continued on page 20)





## PROGRESS TOWARD THE TERCENTENARY INDUSTRIAL EXPOSITION

By G. A. PARSONS, Director

**Ed. Note.** In this brief article, Mr. Parsons outlines a few of Connecticut's most important industrial accomplishments in the past 300 years and how they will be effectively dramatized in the forthcoming Industrial Exposition to be held October 2 to 12 inclusive, in the State Armory at Hartford. He tells how the displays are being planned, of the quickened enthusiasm of manufacturers, and of the worthy educational objective to be attained by full cooperation of the members of each of the 28 industrial groups into which all manufacturing in the state has been divided for review at the Exposition. Mr. Parsons is working under the direction of the Industrial Participation Committee of the Connecticut Tercentenary Commission. Mr. Henry Trumbull is chairman of the committee and Mr. Samuel F. Fisher, Chairman of the Commission.

**T**HROUGH the combined forces of all the leading industries of Connecticut, the State Tercentenary Commission, in cooperation with the Manufacturers' Association of Connecticut, Inc., will present the most unusual exposition New England has ever seen, for ten days beginning Wednesday, October 2 and lasting through October 12 in the State Armory at Hartford.

The enthusiasm and spirit which all of the present participants have shown insures a varied and at the same time coordinated display of 300 years of industrial growth—a growth which has established Connecticut-made products all over the United States and foreign nations. The Industrial Exposition will be so unique in character

and significant in its educational purpose that it will serve as a means of enlightening the visitors concerning the antecedents and prominence of Connecticut in the industrial world. If one surveys it as a whole he will be able to understand readily the tremendous obstacles which faced the Yankee pioneer of a small Connecticut town—obstacles of few natural resources, small capital, and the dread that British authorities might seize his ingeniously devised tools. But more than that, the thousands who will come to the Hartford Armory from all over the state and nation will be impressed by the strides of the modern manufacturer, with his precise tools and machines producing an almost infinite number of commodities and often giving employment to large sections of a city's population.

Connecticut need bow its head to no other state or section in the industrial world. For in this rectangular area between New York and Massachusetts the first large ship-building industry in the American colonies, the first large scale manufacture of guns and clocks, brass and silk were nourished. Yankee peddlers from Connecticut opened up all domestic markets while Yankee ingenuity and resourcefulness paved the way for modern methods. Today the center of the world's brass industry is in Connecticut; our clocks record the time for the world, our hats and textile products clothe its inhabitants. Nation-wide business conducts its affairs on our typewriters, and workmen use our tools and hardware. Our airplanes and motors point a significant finger to the new transportation and Connecticut's place in it, while electrical appliances establish this state firmly in the American home. All of these progressions will be skilfully demonstrated in twenty-eight exhibits representing all of the industries in the state with their respective contributions.

These exhibits will in no sense be isolated or completely

unrelated, but rather are intended to fit into the large general scheme of industrial evolution. While the historic past will play an important part in the scheme of display, it is the living present which will demonstrate to the thousands of visitors the important place of Connecticut in the manufacturing world. The products of all industrialists participating will find equal positions of prominence. The educational rather than commercial character of the exposition prohibits that any single concern be allowed a favored position in the general display. It is the purpose of the exposition to show the growth of all Connecticut manufacturers and their contributions to economic progress.

In addition to the twenty-eight industrial exhibits, most of which will be activated and in motion, the exposition will provide outstanding feature attractions. An old Connecticut grist mill in actual operation will occupy the special display, reproduced in its original form. Connecticut was originally an agricultural state, like all of the early American colonies, and the grist mill might well be considered one of its first factories.

All of the present factories, whether they produce electric motors or silverware, had their origin in simply-devised handicraft operations. The early settlers manufactured their own clothes at home, and forged most of their tools in the barn or village blacksmith shop. The spinning wheel was a regular piece of furniture in every home and every farmer was an expert carpenter and mechanic. All of these ingeniously devised handicrafts will be reproduced in their original form and demonstrated in working operation.

On the armory balcony a crystal broadcasting studio will be erected and operated during the entire exposition. Interesting features of the various exhibits will be broadcast by prominent guests and experts, explaining the character and significance of the displays which in many instances will include detailed descriptions.

The Bell Laboratories, research organization for the Southern New England Telephone Company, will provide an outstanding "Hear Your Own Voice" demonstration which has been a popular feature at recent expositions. Using a mechanism made in the Bell Laboratories an individual talks into the telephone, waits five seconds, and literally talks back to himself. If a person doubts that it is his own voice replying, as many as twenty-six other people can check back on it and confirm the apparatus.

Men and women of national prominence, leaders in the industrial, educational and political world will attend the Exposition at the invitation of the Tercentenary Commission and Governor Cross. Such national figures will be met and entertained by a special committee. One day of the exposition has been set aside as Governors' Day to which will be invited the governors of the New England states and adjoining commonwealths. This exposition is broad enough in scope to explain the development of New England as well as that of Connecticut.

The Manufacturers' Association of Connecticut will hold its annual meeting in conjunction with the opening of the exposition. On Wednesday, October 2, 800 to 1,000 industrial executives from member companies of the organization are expected to attend the opening exercises which will be broadcast from the crystal studio in the Armory, originating over Station WTIC. At three in the afternoon, members of the association will make a preview inspection of the Armory. At six the doors will be thrown open to the public, and at eight in the evening the Ter-

centenary Industrial Exposition will be officially opened by Governor Cross.

At the present time we have just finished most of the preliminary organization of the twenty-eight industrial groups. In many instances the preliminary organization period has been supplanted by an actual working out of the final arrangements for each exhibit, and construction work has been started on technical apparatus. This is notably true in the Brass, Clocks and Time Pieces, Guns and Fire Arms, Hats, Measuring and Recording, and Silverware industrial groups. Once Connecticut manufacturers realized the tremendous possibilities of demonstrating the progress of their own industries they have cooperated enthusiastically with group chairmen and technicians to the fullest extent. Gradually each industrial group has come to include more and more manufacturers until it now appears that almost every important factory in the state will be represented in the exposition.

Connecticut has contributed many inventions and ingenious devices to the arts of the civilized world. Connecticut envoys carried the products of these devices out to the "New Country" through the Far West and down over lonely trails through the South spreading a reputation for craftsmanship and quality. These Colonial salesmen forged their way to new markets despite hardship and danger with wagon and pack, brightening up the lives of isolated homesteaders. Through the period of the Industrial Revolution, Connecticut introduced the "American" or factory system with the basic economic principles of interchangeability of parts, mass production, lowered prices and expanding markets as the culmination of the inventive genius of Eli Whitney.

In 1935, three hundred years after the founding of Connecticut, we can look back with pride, and ahead with confidence, as the Tercentenary Industrial Exposition traces our productive history from Yankee handicraft to modern machines and consumer goods, all products of Connecticut resourcefulness. Every manufacturer in the state should feel it a privilege to cooperate in this marvelous exhibition by participating in one of the industrial groups.

## CHEMICALS

(Continued from page 18)

—sometimes on their own and in many cases by working on specific individual problems of various industries.

Following out this service idea which brought Grasselli Service to the "front door" of industry throughout the nation, large warehouse facilities were provided at 46 River St., New Haven in 1912. This service was appreciated by industrialists of Connecticut and New England area as proved by the continual enlargement of the company's facilities for serving manufacturers with the same promptness which might be afforded by a branch producing unit.

With this increased demand built up by an efficient management, the company instituted its own barge line service carrying chemicals in large quantities direct from the company's plant to the New Haven warehouse where they were dispensed in smaller orders by the company's own force and shipped to all parts of Connecticut and Massachusetts.

Thus has one of the nation's pioneers in the chemical field and one of its strongest units of today, conceived and built well, down to the minute detail of affording "front door service" to every industrial center.



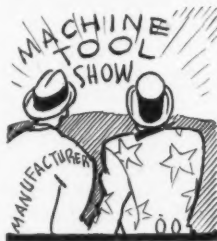
# NEWS FORUM

**Danielson Firm Shows Profit.** A net profit of \$74,169 before income taxes, but after providing for depreciation of \$46,218, has been reported by Powdrell and Alexander, Inc., curtain manufacturers of Danielson, from operations during the first six months of 1935. The net profit available for dividends and surplus is \$61,323, or \$24.12 a share on 2,542 shares of \$100 par preferred outstanding as of June 30, this year.

\*\*\*

**Connecticut to be Prominent in Tool Exposition.** Over 20 Connecticut manufacturers of machine tools, small tools and gauges will exhibit their products at the 1935 Machine Tool Show which opens September 11, at the huge Cleveland, O., auditorium and exposition hall under the auspices of the National Machine Tool Builders' Association. It is understood that the Connecticut group comprises about one-tenth of the total number of firms exhibiting and will occupy approximately 15,000 square feet of the exhibition floor space out of a total exhibit area of 238,000 feet for the entire show.

The 1935 show will be approximately 50 percent larger than the last one, held in 1929, and will occupy nearly five and one-half acres of floor space, or the entire exhibit area of the Cleveland auditorium and exposition hall. More than 900 machines of 600 different types, as well as hundreds of accessories, will be on display. When in full operation, it is estimated that 5,000 kilowatts of electrical energy will be required to pull the hourly load.



William P. Kirk, vice-president of the Pratt and Whitney Company of Hartford, is chairman of the Exposition Committee, and Clayton R. Burt, president of the same company, is second vice-president of the National Machine Tool Builders' Association. Herbert H. Pease, president of the New Britain-Gridley Machine Company of New Britain, is treasurer of the Association. The Pratt and Whitney Company is understood to be the largest single exhibitor, requiring about 4,000 square feet in which to exhibit its products.

Beside the Pratt and Whitney Company, other Connecticut firms exhibiting are as follows: Bridgeport Safety Emery Wheel Company, Bridgeport; the Bullard Company, Bridgeport; the Eastern Machine Screw Company, New Haven; the Geometric Tool Company, New Haven; Goss and DeLeeuw Machine Company, New Britain; Hanson-Whitney Machine Company, Hartford; Hendey Machine Company, Torrington; New Britain-Gridley Machine Company, New Britain; Producto Machine Company, Hartford; the Taylor & Fenn Company, Hartford; Bristol Company, Waterbury; Colt's Patent Fire Arms Manufacturing Company, Hartford; Cushman Chuck Co., Hartford; Fafnir Bearing Company, New Britain; Henry and Wright Manufacturing Company, Hartford; Charles L. Jarvis Company, Gildersleeve; New Departure Manufacturing Company, Bristol; Norma-Hoffmann Bearings Company, Stamford; O. K. Tool Company, Shelton; Skinner Chuck Company, New Britain; Union Manufacturing Company, New Britain; and Whitney Manufacturing Company, Hartford.

\*\*\*

**Typewriter Business Improves.** Steady improvement in the typewriter business throughout the industry, has been reflected in the plans of the Royal Typewriter Company, of Hartford, which shortened its vacation period from two weeks to one week in order to keep abreast of orders. Both the Underwood-Elliott Fisher Company plant at Hartford and the Remington-Rand Company of Syracuse, New York, with its noiseless subsidiary at Middletown, are understood to be enjoying sizeable increases in business.

\*\*\*

**Waterbury Walkout Ended.** With their seven weeks strike settled by the state board of Mediation and Arbitration, 450 employees of the Watertown Undergarment Company began to return to their jobs on August 13. The precise terms of the agreement were not divulged, although it was reported by one who attended the conference, that the scale of wages and prices for piece work were substantially near those received by the workers under the NRA regime.

Mediation of this strike was one of the first tasks attempted by the newly appointed Mediation and Arbitration Board. Members of the board are Messrs. John H. Goss, vice-president and superintendent of the Scovill Manufacturing Company, Waterbury; W. F. Steinmiller, of the State Labor Department; and Professor Clyde O. Fisher, of Wesleyan University, Middletown.

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**Underwood Promotes—Changes Hartford Branch Manager.** George W. Campbell, works manager of the Hartford plant of Underwood-Elliott Fisher Company and F. U. Conard, Bridgeport works manager, were elevated respectively to the positions of general works manager and works manager of the Hartford plant. Mr. D. S. Sammis, superintendent of the Bridgeport Portable Typewriter plant, was made assistant works manager of the Hartford plant. W. C. Goodale continues as assistant under Mr. Conard.

Both Mr. Campbell and Mr. Conard are veterans with the company, Mr. Campbell starting his employment at the Hartford plant of the Underwood company, in charge of the then small portable division. After this division was moved to Bridgeport in 1921, he became works manager of both the Hartford and Bridgeport plants when Mr. Rice was made vice-president of the Underwood company.



Mr. Conard, former chief engineer of the computing machine company in Hartford, came with the Underwood Company over 16 years ago, following overseas service with the army engineers corps in the World War. In 1924 he was made general superintendent of the Bridgeport plant, and in 1929 went to Rockford, Illinois, as head of the Sundstrand division. In 1933 he moved both the Rockford plant and the Elliott Fisher plant at Harrisburg, Penn., to Bridgeport, becoming works manager there.

S. T. Smith of Boston was made branch manager of the Hartford sales office of the Underwood-Elliott Fisher Company, effective August 1, it was announced by C. L. Minton, district manager of the company. He is also a veteran with the organization, coming to Hartford after 10 years as manager of the Boston office. At different times he has been manager of the New Haven, Springfield and Baltimore, Md., offices.

**Electric Boat Gets New Contract—Increases Wages.** The Electric Boat Company of Groton, Connecticut, was practically assured on August 7 of the award of a contract for three new navy submarines to cost \$2,727,000

each, since it was the only bidder. Calling for these bids is part of the efforts of the Navy Department to speed the award of contracts for 13 warships, the completion of which will advance the U. S. toward the goal of a treaty fleet. Scrutiny of bids received by the Navy Department, and opened on August 7, brought a prediction from shipbuilding experts that some \$50,000,000 worth of contracts would be shared by the New England shipyards.

The Electric Boat Company, which is now employing 2200 persons, also announced on August 7, a new wage agreement calling for an increase of 4 percent in pay with no change in working hours. These hours will continue at 36 per week with the agreement voted two to one by the Employees Association, to remain effective for 18 months.

\*\*\*

**United Aircraft Orders and Employment Near All Time Peak.** Unfilled orders of the United Aircraft Corporation, estimated at \$15,000,000 about July 1, are said to be holding that approximation despite the substantial deliveries, with prospects for maintenance of this position being very favorable. Companies in the United Aircraft family are now said to be employing as large if not a greater number of persons than at any time in their history.

\*\*\*

**Veeder-Root Shows Higher Profits.** In its statement as of June 15, 1935 covering a 24 weeks' period, the Veeder-Root, Inc., showed earnings of \$167,256.28, or the equivalent of \$2.23 per share. This compares with \$158,052.41 for the corresponding period of 1934 of \$2.10 a share.

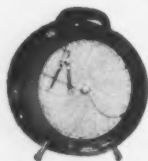
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**Increase Activity at Ingraham Plant.** Edward Ingraham, president of the E. Ingraham Company of Bristol, recently reported a substantial gain in business volume in radio cabinets, now being manufactured for several large producers of radios. The company, now employing around 2,000 persons, has been making these cabinets for table models during the past several years, and is now engaged in building up inventories against an expected demand, in addition to filling a large volume of current orders. Although considerable additional employment has been given to present employees, it is reported that the company has not found it necessary to add help.

\*\*\*

**Tool Business Up in July.** Contrary to usual seasonal trend the machine tool business of the Pratt and Whitney Company of Hartford and of the New Britain-Gridley Machine Company has escaped the moderate decline experienced by the industry as a whole during the last half of July.

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Clayton R. Burt, president of the Pratt and Whitney Company, anticipated the usual seasonal drop in August because this decline has never failed and on account of the machine tool show in September.

\*\*\*

**Eagle Lock—Billings & Spencer Cut Losses.** Both the Eagle Lock Company of Terryville, Conn., and the Billings and Spencer Company of Hartford, have recently reported decreases in losses during the first six months of 1935 as compared with the same period in 1934.

The Eagle Lock Company indicated a loss from operations after all charges but before dividends of \$80,000, of \$69,111, making a decrease in surplus of \$149,111 for the 12 months ending June 30. This compares with a decline of \$252,485 in a previous period.

The Billings and Spencer Co., of Hartford showed a loss for the 12 months ended June 30, of \$47,349 as against



\$62,841 for the corresponding period a year ago. This status was reported at the stockholders' meeting held August 12. After failing to get the necessary two-thirds vote to approve a proposed loan from the Federal Reserve Bank of Boston, through the Hartford banks, as a means of compromising its \$158,000 back tax bill to Hartford, the meeting was adjourned until September 9.

Among the new items reported by W. Roy Moore, vice president and general manager, which were largely responsible for the improvement in the company's position were chain-type pipe vises, fittings wrenches, a newer type of double-end wrenches now being made under contract for Sears, Roebuck and Company, and detachable socket wrenches. The most substantial improvement, Mr. Moore stated, was in the commercial contract and machine division, where the company needs additional funds for equipment and sales efforts in order to expand the profitable wrench lines. The golf division was reported to be in liquidation.

\*\*\*

**Death of T. M. Russell.** Thomas Macdonough Russell, 62, chairman of the board of the Russell Manufacturing Company, and former mayor of Middletown, died suddenly

of a heart attack at his home in Middletown, Tuesday afternoon, July 30. He had just returned home after having lunch at the Middletown Yacht Club, and not feeling well, called Dr. G. M. Craig, who found him lying dead upon his couch. Mr. Russell's death was the more shocking because he was understood to be in good health.

A member of one of Middletown's oldest and most prominent families, and a grand-nephew of Thomas Macdonough, "Hero of the Battle of Lake Champlain", Mr. Russell was born in Middletown and spent his entire life in the city. He was educated at St. Mark's School and at Sheffield Scientific School at Yale, later entering the profession of civil engineering, planning among other projects the Middletown-Berlin railroad line. In 1912 he was elected president of the Russell Manufacturing Company, serving in that capacity until 1933 when he was made one of two receivers. Upon dissolution of the receivership in 1934, he became chairman of the board of directors. During his early years as president of the company, he was also head of the Russell Engineering Company.

At one time he owned a newspaper, the Middletown Sun, which had a brief existence some 27 years ago. In 1908, Mr. Russell was elected mayor, serving one term, and several years later became one of the city's representatives to the General Assembly. Always an active Republican in politics, he was twice made a presidential elector and a delegate to Republican national conventions. He was likewise interested in civic and political affairs of Middletown, being at one time a leader in the Taxpayers Association, and was a member of the Republican Town Committee. Recently he has been executive vice president and a director of the Central National Bank to which he had been devoting much of his time.

Among his other official capacities were included the former vice presidency and directorship and more recently trusteeship of the Middletown Savings Bank; director of the Middlesex Mutual Assurance Company and member for 30 years, until two years ago, of the Board of Education of the City School District.

He was a member and commodore for many years of the Middletown Yacht Club, his collection of ship models being judged as one of the finest in the country. He was a member of the Church of the Holy Trinity, of the Exchange Club, the Edgewood Country Club, St. John's Lodge, AF&AM, Columbia Council, RSM, Washington Chapter, RAM and Cyrene Commandery, Knights Templar. He had worked his way through the ranks to the captaincy of the old Company H of the National Guard and during the war was a lieutenant-colonel of engineers.

Mr. Russell leaves his wife, Henrietta Ingersoll Russell; a son, T. Macdonough Russell, Jr.; a daughter, Mrs. Margaret Hubbard North of Philadelphia, Pa.; a sister Mrs. Lucy Dabney of Santa Barbara, Calif.; a half sister, Mrs.



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What is believed to have been Mr. Russell's last accepted committee post was that of director of the Thread, Twine and Webbing division of Connecticut industry in which he was to direct the work of preparing a cooperative exhibit of that group to be set up at the Connecticut Tercentenary Industrial Exposition, starting October 2. He had attended the first committee meeting on Thursday previous to his death. His son, Thomas Macdonough Russell, Jr., succeeded him to this post.

\*\*\*

**Waterbury Tool to Enlarge Plant.** The Waterbury Tool Company is now constructing an addition to its plant on East Aurora Street, Waterbury, which, it is estimated, will cost between \$35,000 to \$40,000 when finally completed. The plans call for a one story brick and steel addition, 235 by 30 feet, and for an ell, 33 by 24 feet.

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**Glastonbury Company Selling Houses.** The Glastonbury Knitting Company has recently placed on the market 28 of its houses owned in the Addison section of the



town. They are being sold by R. L. Tarrant of Norwich, agent for the company. A number have already been acquired by mill workers who formerly occupied them.

\*\*\*

**Talcott Mills Damaged.** Damage amounting to approximately \$1,000 was caused Friday, July 19, shortly before noon at the woolen mill of the Talcott Brothers, Talcottville, when fire, believed to have been caused by spontaneous combustion, damaged the "Picker Room". The efficient work of the mill workers and the quick response of the Manchester and Rockville Fire Departments were highly praised by the company's president, C. Denison Talcott.

\*\*\*

**Cheney Brothers Market New Velvet.** Cheney Brothers, silk manufacturers of Manchester, recently announced for sale a new dress goods fabric which bears the registered trade name of anti-crush velvet. The new cloth, similar to the transparent velvet woven for the past five or six years, has the added feature of resisting wear to a remarkable degree, according to Clifford Cheney, vice president of the company. The new material remains fresh and lustrous and free from wrinkles and is also said to withstand frequent dry cleaning without ill effects to the fabric.

The new development is the direct result of intensive research by the company over the past several months coupled with the use of a new patented chemical process developed by a British firm. Launching the sale of this new material accounted for much of the increased activity during the past Spring in the velvet weaving department.



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**Yale and Towne Shows Large Gain.** For the second quarter of 1935 ending June 30, the net profit of Yale and Towne Manufacturing Company of Stamford was \$71,514 or nearly 75 percent ahead of the \$41,011 for the comparative period last year. This second quarter upturn absorbs the deficit of the first quarter amounting to \$9,676 making a net profit for the first six months of 1935 of \$61,831.

\* \* \*

**Two Strikes Settled in Putnam.** A ten day strike at the M. Salzberg and Sons silk plant of Putnam, was settled on July 29, according to an announcement made by William F. Steinmiller, secretary of the new State Board of Mediation and Arbitration. The settlement came as a result of a conference between management and strikers, the former being represented by Harry Salzberg and the workers by Horace Riviere of the United Textile Workers of America. The terms of the settlement were not disclosed. The walkout of 256 employees, 10 days previous, was in protest against a proposed wage cut.

By a vote of 147 to 135, employees of the Putnam Woolen Corporation, a branch of the Uxbridge Worsted Company, of Uxbridge, Mass., voted to return to work on Monday, August 5. Despite determined opposition to the vote led by Thomas Redfern, president of the United Textile Workers, and Henry Baker, chairman of the strike committee, who repeatedly tried to get the floor to urge the workers to leave the settlement of the strike to union officials. The meeting of the employees was held at the City Hall, Putnam, under the auspices of the Independent League.

\* \* \*

**Fairchild's State Map Photos Available.** Fairchild Aerial Surveys, Inc., 300 Madison Avenue, New York, who completely photographed and made prints of the entire terrain in Connecticut, in cooperation with the photographic section of the Connecticut National Guard, for use of the State Highway Department, are now making available to every property owner, at reasonable cost, an aerial photograph of his holdings. Photographic maps



**AERIAL** photograph taken near Middletown, by the Fairchild Aerial Surveys, Inc. It is one of the 10,000 required to reproduce the whole state of Connecticut on film. The above view was made from an 8" x 10" glossy print.

have also been completed showing the entire state, and may be secured in sections, on one sheet, of either 25 square mile or 215 square mile areas. These sections may be assembled into larger units for those desiring more territory showing on one long map.

This formidable task of taking 10,000 pictures, necessary to cover the entire state, required four airplanes with complete crews, flying every good day for a total of six weeks. All photos were assembled into a complete mosaic at Brainard field, using the facilities of the National Guard granted by General William F. Ladd, who took an active interest in the work, and aided materially in advancing the project to a successful conclusion.

Through the courtesy of Highway Commissioner, John A. Macdonald, a complete set of prints have been placed on file at the State Library, so that after the proper print number has been located on the index map, also placed on file at the library, any property owner can readily secure and inspect a map of his holdings. The price list of prints, ranging from 30 cents to \$9.50 per unit depending on scale, may be secured either from the State Library at Hartford or from the Fairchild Aerial Surveys, Inc. The photograph accompanying this article which has been reduced from an 8 by 10 glossy photo, gives some idea of the appearance of the smaller type individual prints.

\* \* \*

**F. T. C. Files Procedure of Seeking Trade Agreements or Conferences.** The Federal Trade Commission, empowered about July 1, to negotiate trade agreements and arrange for the holding of trade practice conferences, instead of the National Recovery Administration, has outlined certain definite procedures which should be taken by industries who desire to enter into trade agreements or to hold trade practice conferences. These procedural steps are as follows:

In authorizing a trade practice conference, the Commission must first be satisfied that the holding of such a conference is desirable and to the best interest of the industry and the public. An application should be in the form of petitions or informal communications containing the following information.

1. A brief description of the business for which the conference is intended, including the number of units in the industry, the number of employees, products manufactured or the commodities distributed, annual volume of production, volume of sales, capitalization of the industry, or like items, should be approximated.

2. The authority of the person making the application should be shown. If made by a trade association executive, a resolution showing the action of the association should be submitted, together with a statement of the percentage of the entire industry represented by the association membership. This may be shown on the basis of the volume of business, or from the standpoint of the number in the industry, or both. If the application is filed by an unorganized group, the percentage of the entire industry represented by the group applying for the conference should be shown.

3. The application should state whether the conference is intended for all branches of the industry, or whether it is to be limited to a particular branch or branches thereof.

4. The application should set forth any unfair methods of competition, trade abuses, or unethical practices existing in the industry, which it is intended to correct.

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### ... Listing

Copy for listing in this department must be received by the 15th of the month for publication in the succeeding month's issue. We reserve the right to refuse any listing.

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# DEPARTMENTS

## Accounting Hints for Management

*Contributed by Hartford Chapter N. A. C. A.*

**Cost of Standard Cost Accounting.** Comments have been made in this Department from time to time on the subject of "Standard Cost Accounting." Its use has been suggested in industries where it would facilitate matters. A communication has been received claiming that it is more expensive to operate a standard cost system than an "actual" cost system. To this allegation we have received the following rejoinder.

The assertion made is quite broad and the manner in which it is stated makes it rather difficult to defend the claims of the advocates of standard cost principles. The cost of operating any system of accounting can be judged only by the results desired and those obtained. An expenditure is costly if the result obtained is not of service to the business.

For the purpose of discussion, let us use as an analogy statement—that it costs less to operate a Ford truck than a Mack truck. The answer to this is the same as above. In comparing the cost of these two trucks, the cost of operation must take into consideration the requirements of the business and the results to be obtained. A trucking company would be very foolish to buy Mack trucks to haul loads of less than a ton each and likewise, foolish to expect the Ford to haul the heavier loads.

When standard costs were first introduced, the plan seemed a very radical departure from the generally accepted form of accounting in use at that time. A great amount of discussion followed and as a result of this, we find the new idea is not as radical as was first thought. Any cost system consists of determining the cost of some unit of measurement. This unit of measurement may be a unit of the product, an order or a unit of predetermined cost. In selecting a plan of accounting for any business, the first requisite is the selection of a practical unit of measurement.

The pioneer cost accountant knew this and if the business was of such a nature that the product could not be measured against some accepted unit, such as the weight or count of the article, he selected the production order as his unit. Such a plan operated successfully in a job order shop but when this plan was instituted in a plant where the product did not lend itself to weight or count, and there was a continuous repetition of operations at costs which were already known, the cost of operations became too burdensome and the results were obtained at a date too late for any practical use. As a result of such installations, there grew a natural desire to eliminate all unnecessary clerical effort and place the emphasis on those items of cost which varied from some predetermined amount. It is through such instances as these that these apparently exaggerated claims have been made by the advocates of standard cost.

We have accepted this term Standard Cost in about the same manner as the bookkeeper of the nineties referred to his loose leaf system as a contrast to the old bound books. The adoption of loose sheets in bookkeeping was the result of an effort to keep records with less effort, and in some cases, it must have been more expensive than the old, but

the results were such that when information was required, someone other than the bookkeeper had a chance of finding the account. The loose sheets are accepted as a part of the daily routine and we would no more go back to the bound books than to mustaches and the corresponding guards on our coffee cups.

In like manner it is believed that we are accepting the standard cost in some form, contrasted to so-called actual cost, as a very necessary part of the operation of our industrial affairs.

Competition is so keen today that if one expects to make money, he must plan for it. In making these plans we set up some objective in every department of our activity. If the actual results are being measured against these plans, you are operating what is my conception of standard cost. The details of this will vary with every type of business and may be elaborated to give information to every person who carries any responsibility.

Such a plan could be designed so that but one person would be required to operate it. The result would be just what you paid for. The great danger is that we often work out a plan that gives most elaborate details and when we get through no one but the fellow who made them knows what it is all about. Every system of accounting must be fitted to the personality and intelligence of those who are to use the information.

It is interesting to know the actual cost of an article or job, and possibly this information may be obtained at a minimum of expense. The most important knowledge to have is the cost of each activity in relation to the respective amount allowed in predetermined plans. If this information can be obtained early enough so that excessive cost can be checked, it is worth all the added cost which may be incurred in its operation.

\* \* \*

**Industrialist to Address Cost Accountants.** Alvin T. Simonds, prominent industrialist and president of the Simonds Saw & Steel Co, Fitchburg, has been selected by Hartford Chapter, N. A. C. A. as the speaker for the opening meeting of its technical program for the season. His topic will be, "Should a Business Man Know His Business?" The meeting will be held on Tuesday evening September 17th, at the Elm Tree Inn, Farmington. Members of the Manufacturers Association are invited to attend.

## Transportation

**Advisory Board Meeting Scheduled in Hartford.** The Fall meeting of the New England Shippers Advisory Board has been scheduled for the Bond Hotel at Hartford on September 27, in honor of the Tercentenary Celebration. On the evening previous, the Transportation Division of the Hartford Chamber of Commerce will hold a dinner to which all members and guests of the Board will be invited. Besides having several speakers on traffic matters, at least one and possibly two speakers will address the meeting on the development of Connecticut industry and its graphic portrayal at the coming Connecticut Tercentenary Industrial Exposition in October.

Judging from past attendance records, it is expected

that from five to six hundred railroad executives and representatives of industries will attend the Hartford meeting.

\* \* \*

**Intercoastal Rates Readjusted.** New rates, which have been under discussion for some time past by the Intercoastal lines, have finally been agreed upon and will become effective October 3, 1935. The public has not been informed of the intended action on specific commodities, but it is generally understood that rate increases varying from 5 to 100 percent have been authorized. A copy of the Westbound Intercoastal Tariff is on file at the Association's office, and upon request of the transportation department, members will be advised of any changes in rates which are of interest to them.

\* \* \*

**Rail Lines Establish "C. O. D." Service.** A number of railroads operating in Eastern Territory will provide for a "collect on delivery" service in connection with pick-up and delivery service applicable on less-than-carload freight, effective September 1, as outlined in Supplement No. 14 to W. S. Curlett's Tariff, I. C. C. A-435. The service is available to shippers located on the New Haven Railroad on shipments destined to stations on the lines of the various carriers who are parties to the tariff, but is not available on similar less-than-carload freight destined to points on the New Haven Railroad. The charges for this service are on a graduated scale, starting at 25 cents for the collection and remittance of a "C. O. D." in an amount not in excess of \$5. The fee becomes 40 cents for a collection of \$50.; 50 cents for \$100.; 80 cents for \$200.; \$1.70 for \$500.; and \$3.20 for \$1,000, with various additional intermediate graduations. Upon request, Association members will be given further information concerning this service.

\* \* \*

**Interstate Trucks Come Under Federal Regulation.** President Roosevelt affixed his signature on August 9 to the new motor transport regulation law, passed by the Senate on August 5, with amendments previously adopted by the House. The Act will become effective on October 1, 1935, unless the Interstate Commerce Commission, authorized to administer the Act, finds it necessary or desirable to postpone any of its provisions. In any event, the effective date will be no later than April 1, 1936. A brief outline of the more important phases of the Act's provisions follows:

1. Persons carrying their own property are defined as "private carriers" and are not subject to the Act, except as the Commission may establish reasonable requirements to promote safety of operation, which may include prescribing of maximum hours of service of employees, certain qualifications and standards of equipment.

2. Provision is made for appointment of "joint boards", cooperating with Commission, particularly in cases involving operations in not more than three states.

3. Certificate of public convenience and necessity is required for "common carriers", and "contract carriers" are required to obtain a permit. The grandfather clause provides that "common carriers" in operation on June 1, 1935, and "contract carriers" in operation on July 1, 1935, shall be granted a certificate or permit, respectively, without further proceedings, if application is made within the prescribed period.

4. No person may hold "common carrier" and "contract carrier" permits unless good cause is shown Commission that it is consistent with the public interest.

5. The Commission is authorized to prescribe rules and regulations governing the filing of surety bonds, policies of insurance, qualifications as a self-insurer, or other securities to protect the public adequately against negligent operation or loss or damage to the property of others.

6. The rates, fares and charges of "common carriers" are to be filed with the Commission, selected without discrimination, and changed only after thirty days' notice, with the exception of special permission of the Commission.

7. I. C. C. may inquire, upon complaint or upon its own initiative, the reasonableness of any rate or charge and may, after hearing, prescribe the rate, fare, or charge, thereafter to be observed. It shall have the supervision of joint rates and fares between motor carriers and common carriers by railroad or water, and may require carriers to enter into joint agreements over through routes, prescribing the divisions of the through rates to be collected for such services.

8. I. C. C. is not empowered to prescribe or regulate the rates and fares to be charged by intrastate transportation, or for any service connected therewith. Neither can it suspend the operation of any initial schedule filed by a carrier, whether "common carrier" or "contract carrier", entitled to operate under the grandfather clause.

9. "Contract carriers" must file with I. C. C. their schedules showing minimum charges before it is lawful to perform any trucking services, nor may the carrier charge less than the published rates.

While the Federal Motor Carrier Act is similar in many details to the State Regulatory Act, it differs in that it requires "contract carriers" to file their minimum rates with the Interstate Commerce Commission while the Connecticut Act requires this only of "common carriers". However, the State Act empowers the Public Utilities Commission, the regulatory body, either upon its own motion or on complaint to inquire into the reasonableness of the rates of "contract carriers" and prescribes minimum rates for the future.

Members desiring a copy of the Federal Motor Carrier Act should communicate with the Association's Transportation Department.

\* \* \*

**Free Zones for Trucking.** Under the terms of the Motor Carrier Act regulating the operations of "for-hire" motor carriers within Connecticut, about which Association members were advised in the "1935 Legislative Report", the Public Utilities Commission was authorized to designate certain "adjoining territory" to and from which the regulatory provisions would not apply. These free zones, already authorized by the Commission, are as follows: Hartford, West Hartford and East Hartford are designated as one zone. Other areas are: Ansonia, Derby and Shelton; Branford and North Branford; Bridgeport, Fairfield, Stratford, and Trumbull; Brooklyn and Killingly, Danbury and Bethel; East Haddam and Haddam; Lebanon and Franklin; Middletown, Cromwell and Portland; New Britain, Berlin and Newington; New Haven, East Haven, Hamden and West Haven; New London and Groton; Tolland and Willington; Torrington and Harwinton; Windsor Locks and East Windsor. Additional free zones may be added by the Commission if shown conclusively that such zones are required in order to avoid discriminatory practices.

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**Connecticut Company Given Debenture Rights.** Issuance of a new debenture of \$5,000,000 by the Connecticut Company was recently approved by the State Public Utilities Commission, according to its announcement on July 23. The issue dated July 1, 1935 is to mature on July 1, 1944. It was sought by the company as a method of renewing its similar issue dated July 1, 1931 maturing July 1, 1935, and is entirely owned by the New York, New Haven and Hartford Railroad being pledged to Federal Reserve Bank as security for the loan under which it secured funds to finance improvement to rolling stock and equipment.

\*\*\*

**New Haven Makes New Appointment.** On July 22, R. L. Pearson, Vice President and General Manager of the "New Haven Road" announced the appointment of S. F. Mackay as general superintendent of transportation. On the same date Mr. Mackay announced the appointment of P. R. Goulett as superintendent of passenger transportation, and of P. M. Shoemaker as superintendent of freight transportation.

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## Foreign Trade

**Foreign Trade School Planned.** As announced in the Association's Foreign Trade Bulletin No. 62, dated August 3, 1935, the Association, under the guidance of the special Foreign Trade School Committee, plans to start an educational program, or school, for the benefit of exporting interests of the state. These plans contemplate starting the first 17 week semester of this work by October 1, with class-room lectures and recitations to be held in connection

with well-known educational institutions in both New Haven and Hartford, if interest warrants. It calls for interested member companies sending to this school that person, or persons, in their organization who are handling or will be expected to handle export sales in the future.

Although a definite cost per man per semester of 17 weeks cannot be set until actual registration for the course is known, on the basis of a careful investigation the Association has found that for at least 20 students the individual cost will not exceed \$25.00. The subject matter will be chosen primarily for its practical value rather than theoretical, the instruction being carried on by competent men in the foreign trade field, selected and approved by the Association's Foreign Trade Committee.

Association members interested in training one or more of their men in practical foreign trade matters, or those outside of the fold who are interested in enrolling for the course, should communicate at once with Association headquarters at 50 Lewis Street, Hartford.

\*\*\*

**Connecticut Plants Share Russian Business.** Connecticut machine tool manufacturers understood to be sharing in the \$2,000,000 business recently released by the Russian Government through the Amtorg Corporation, its purchasing agency in the United States, are as follows: Pratt and Whitney Company, Hartford; Farrel-Birmingham Company, Ansonia; Waterbury Farrel Foundry and Machine Company, Waterbury; and the Baird Machine Company, Bridgeport.

In July, the Amtorg Corporation is said to have placed orders for business amounting to \$6,000,000., the largest volume of purchases in any one month for several years.

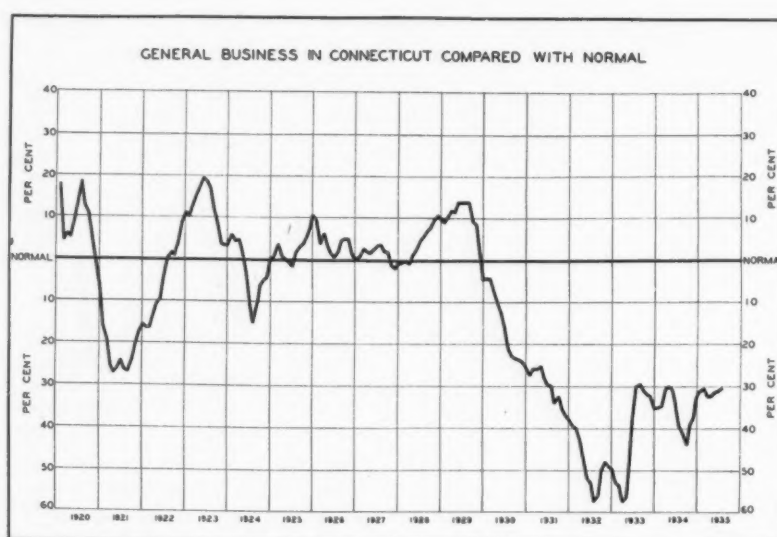


# BUSINESS PATTERN

**General Summary.** General business activity in Connecticut during July continued to increase slowly for the fourth consecutive month and stood at 30.6% below normal compared with —31.2% (revised in June and —39.5% a year ago. As in June, the movement of the various components of the business curve was somewhat erratic. Industrial activity as measured by the number of man-hours worked in six cities was again higher. Factory employment in 11 cities, corrected for seasonal variation, stood at 96.4% of the 1930 average compared with 95.5% in June and was 7.5% above last year. Metal tonnage carried by the New Haven Road and bank debits to individual accounts were moderately higher while cotton mill activity remained unchanged and the number of freight

the last three weeks of July to the highest level since last February. In the week ended August 10, there was a slight recession due to the drop in automobile production as manufacturers prepared their plants for the production of 1936 models. Steel ingot production continued to increase through the first half of August, lower demand by automobile makers being more than offset by higher demand from miscellaneous sources. Reports from the cotton textile trade indicated an expansion in cotton mill activity due to sharp increases in demand.

On August 10 the index of wholesale prices compiled by the United States Bureau of Labor was 1.1% above the level of 4 weeks earlier. Farm products and food advanced somewhat less than 3% during the four-week



carloadings originating in 14 Connecticut cities was slightly less than a month earlier. Data available for the first 10 days of August indicated a more substantial rise in the general business index. The daily average of freight carloadings expanded more than seasonally over July and employment and the number of man-hours worked in factories in Bridgeport also rose well above the July level.

During July, general business activity in the United States was maintained at the level of the preceding month. Increases occurred in electric power production, cotton mill activity, silk consumption, and boot and shoe production. Lumber production, because of the cessation of strikes in the Northwest and the expansion in residential building, rose substantially over June. On the other hand, freight carloadings originating in the United States declined abruptly due largely to the drop in shipments of bituminous coal. New orders for machine tools were the highest since October 1929 and more than three and one-half times the total for July 1934. In the first seven months of this year new orders for machine tools exceeded the corresponding period of last year by 68%. The weekly index of the New York Times moved up rapidly during

period while other groups of commodities showed only minor changes. The increase in the price of farm products was due largely to much higher prices for cattle and hogs which early in August were back to the 1929 level.

The cost of living in the United States during July showed a small decrease from the preceding month. This was brought about by decreases in the cost of food and clothing which more than balanced small increases in the cost of rent and sundries. During the past year and a half, the rise in the cost of rent has advanced this item approximately 13%.

**Finance.** During the 4 weeks ended August 10 the number of business failures and the gross liabilities of failures in Connecticut declined 12% and 38% respectively from the corresponding period of last year. The number of new corporations formed during this same period rose sharply compared with the preceding four-week period to a point 13% above a year ago. Real estate sales also compared favorably in number with the previous period and ran 12% above last year's level.

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**Construction.** New building activity in Connecticut continued to expand during July and the first part of August. The number of building permits issued during the 4 weeks ended August 10 exceeded last year by 15% while the value of permits was about double the total for the corresponding period of 1934.

In the United States new building activity continued the upward trend that has been in evidence during the past few months. The total value of building contracts awarded in 37 eastern states on a seasonally adjusted daily average basis advanced 10.5% over June and 29% over July 1934. New residential building expanded further with a total value of new business in July two and one-half times as large as a year previous. During the first 7 months of 1935 new residential construction was larger than the total for the whole of 1934.

**Labor and Industry.** Industrial activity in Connecticut manufacturing plants experienced less than the usual seasonal contraction in July. As a result the index of the number of man-hours worked in factories stood at 21.4% below normal compared with -23.0% in June and -37.9% a year ago. The number of man-hours worked in Hartford factories increased in July over the June level and was 40% higher than in July 1934. Bridgeport fac-

tories also showed a sharp gain over June and a 27% increase during the past year. In Bristol and New Britain, production was maintained at approximately the level of the preceding month and both cities reported substantial increases over last year. New Haven was the only city to report more than the usual seasonal decrease in operations in July. Factory employment in Stamford increased approximately 1.5% during the month while in Waterbury brass concerns there was a further slight curtailment.

**Trade.** Sales by department stores in Connecticut during July fell off less than seasonally from June and on a daily average basis were 12% higher than last year. For the United States as a whole the index of department store sales compiled by the Federal Reserve Board stood at 80 in July, the same as in June.

**Transportation.** The July index of freight carloadings originating in 14 Connecticut cities was moderately lower than in June. Loadings of automobiles fell off sharply while loadings of building materials and merchandise in less than carload lots maintained the level of the preceding month. Shipments of bituminous coal fell off abruptly following the June rise in anticipation of the threatened coal strikes.

# SERVICE SECTION

On account of space limitations, the material and used equipment items offered for sale by Association members have not been classified by sizes or usage best adapted. Full information will be given on receipt of inquiry. Listing service free to member concerns. All items offered subject to prior sale.

## ●● Materials for Sale

COLD rolled steel in coils and in squares, condulets and fittings, remnants of covering materials—velours, velvets, mohair, tapestries, denims, chintzes, and cretonnes, semi-finished and castellated U. S. S. nuts, pulleys, flat and crown face-steel and cast-iron; new shaft hangers, brass wire, brass rods, aluminum tubing, cold drawn steel—mostly hex; miscellaneous lot of material used in the manufacture of molded rubber parts and flooring, knife switches—new and many sizes; carload C. I. drop bases; lead pipe, lead sheet, acid proof pipe fittings, 124 bars screw stock varying thicknesses and lengths, white absorbent tissue process from cotton, rotary convertor, colors and dyes—large variety, lacquers—several hundred gallons in assorted colors; and soft anneal copper with high silver content in rolls. J. H. Williams' wrenches in assorted sizes.

## ●● Equipment for Sale

ACCUMULATORS, annunciators, baskets, beaders, beamers, bearings, belt stretchers, blowers, boilers, braiders, bronze runners, cans, cards, woolen; car loaders, chain, chairs, chamfer, clocks, time recorders; clock systems, colors and dyes, compressors, condulets, converters, conveyors, cookers, cooking utensils, doublers, draftsman's table, drop hammers, drops, board; drums, drying racks, dyes, engines, evaporators, extractors or percolators, fans, filtering carbon, folders, forming rolls, frames, furnaces, gears, generators, grinders, grindstones, grinding wheels, guiders, headers, lamp shades, lathes, lifters, looms, De Laski circular; machines, automatic; machines, calculating; machines, compressing; machines, dieing; machines, drilling; machines, filing; machines, filling; machines, folding; machines, knitting; machines, mercerizing; machines, milling; machines, pipe-cutting and threading; machines, pleating down; machines, riveting; machines, screw; machines, threading; machines, tongue and groove; machines, washing; mercerizer equipment; millers, mixers, mills, mills rubber; mixing rolls, motors, oil circuits; oven drawers, paints and lacquers; panels, planers, plungers, pointers, presses, profilers, pulley drives, pumps, reamers, receivers, rheostats, safe cabinets, saws, scales, screens, seamers, shapers, shears, spindles, spinning mules, steam tables, steam warmers, stitcher, 192 monitor corner box switches, tables, tanks, toilet equipment, trucks, ash can; tube closers; wire, wire screw and yarders.

## ●● For Sale or Rent

FOR SALE. One 3½ Bliss toggle press in good condition. Address S. E. 76.

FOR SALE. 1 Bigelow H. R. T. boiler. 53 B. H. P. Will pass inspection. With fittings. Address S. E. 79.

FOR SALE—Free Cutting Bessemer Screw Stock of various sizes ranging from 7/16" to 5" in Rounds; 1½" to 1½" in Squares; and 7/8" to 2" in Hexagons. Also Cold Rolled Steel ½" x ¼" to 3½" x ¼". Address S. E. 80.

FOR SALE. One No. 94 Monarch Oil Burning Furnace, 2,000 lbs. capacity, complete with all accessories including electrical equipment. Address S. E. 90.

FOR SALE. Buffing and polishing sand for sale. Willing to give sample if interested. Address: Rita Harrington, 1273 Main Street, Hartford, Connecticut.

## ●● Wanted to Buy

WANTED, USED—1 Portable Recording Wattmeter, 3 Phase, 3 Wire, 60 Cycles, 230 and 575 Volts. 5 Amperes, Synchronous Motor Drive (1" per hour and 1" per minute suggested); 2 Current Transformers for above, 20-25-40-50-800-1,000 Ampere Rating; 1 600-KVA, 440 Volt, 3 Phase, 600 RPM Alternating Current Generator, with Exciter; Exciter preferably directly connected to Generator. Generator must have amortisseur windings. Address S. E. 87.

NEW PRODUCTS WANTED. A well equipped established Connecticut manufacturer wants to acquire additional lines of metal products or tools having a normal manufacturing season during the summer and early Fall months. Would prefer an established line that can be distributed through the hardware trade. Address your offerings to S. E. 89.

PACIFIC COAST REPRESENTATION. A. B. Boyd & Co., direct mill representatives with offices at San Francisco, Los Angeles, Portland and Seattle and with a corps of 17 salesmen, calling daily on manufacturers in the Pacific and mountain states areas, desire a few additional lines of raw materials or semi-finished products. Now representing a number of New England concerns. References on request by writing Elmer J. Towle, A. B. Boyd & Co., 1239 Howard Avenue, San Francisco, California.

## ●● Employment

SUPERINTENDENT, PRODUCTION MANAGER OR FOREMAN. Married man who has advanced himself from a clerk to various production positions to become superintendent in a large metal working plant, seeks any type of a production position in Connecticut or New England concern where there is a reasonable opportunity for advancement in regular employment. Has had experience in foundry work, both brass and iron, plating, finishing, lacquering, buffing, polishing, rolling, machining, press work, assembling and numerous other productive operations. For further particulars and interview address P. W. 293.

MAINTENANCE ENGINEER. Married man who has had over 20 years' experience in industrial maintenance work, contracting, wrecking, machinery installation and lay-out work, desires position as plant engineer or construction and factory maintenance engineer, or a position calling for both types of experience. During this period the applicant has had charge of numerous large installations of plant equipment, and has been in complete charge of many sizeable construction projects such as bridges, dams, power-house units, etc. Applicant will consider a reasonable salary offer to start, being content to increase his earnings through an ample demonstration of the savings he can effect for his employer. References and interviews may be arranged by writing P. W. 296.

COLLEGE GRADUATE. Young man who has just graduated from Trinity College, majoring in chemistry, seeks beginner's position in chemical laboratory of a manufacturing plant or independent laboratory. He is willing to start on any menial task which will give him an opportunity to demonstrate his value later on in the chosen chemical field. His short business experience has not been connected with chemistry, but rather covers canvassing to build up a route and afterwards selling to customers on that route for the Made-Rite Products Company. For further details address P. W. 297.

SALESMAN OR MANAGER. College man in thirties whose annual earnings in his own business for ten years were in five figures, now desires to make connection with manufacturer on salary or drawing account and commission basis. He is a man of unusual ability who can organize as well as sell. Any manufacturer who can sell him his product and organization will acquire a valuable asset which will hold its value in any market. Address P.W. 300.

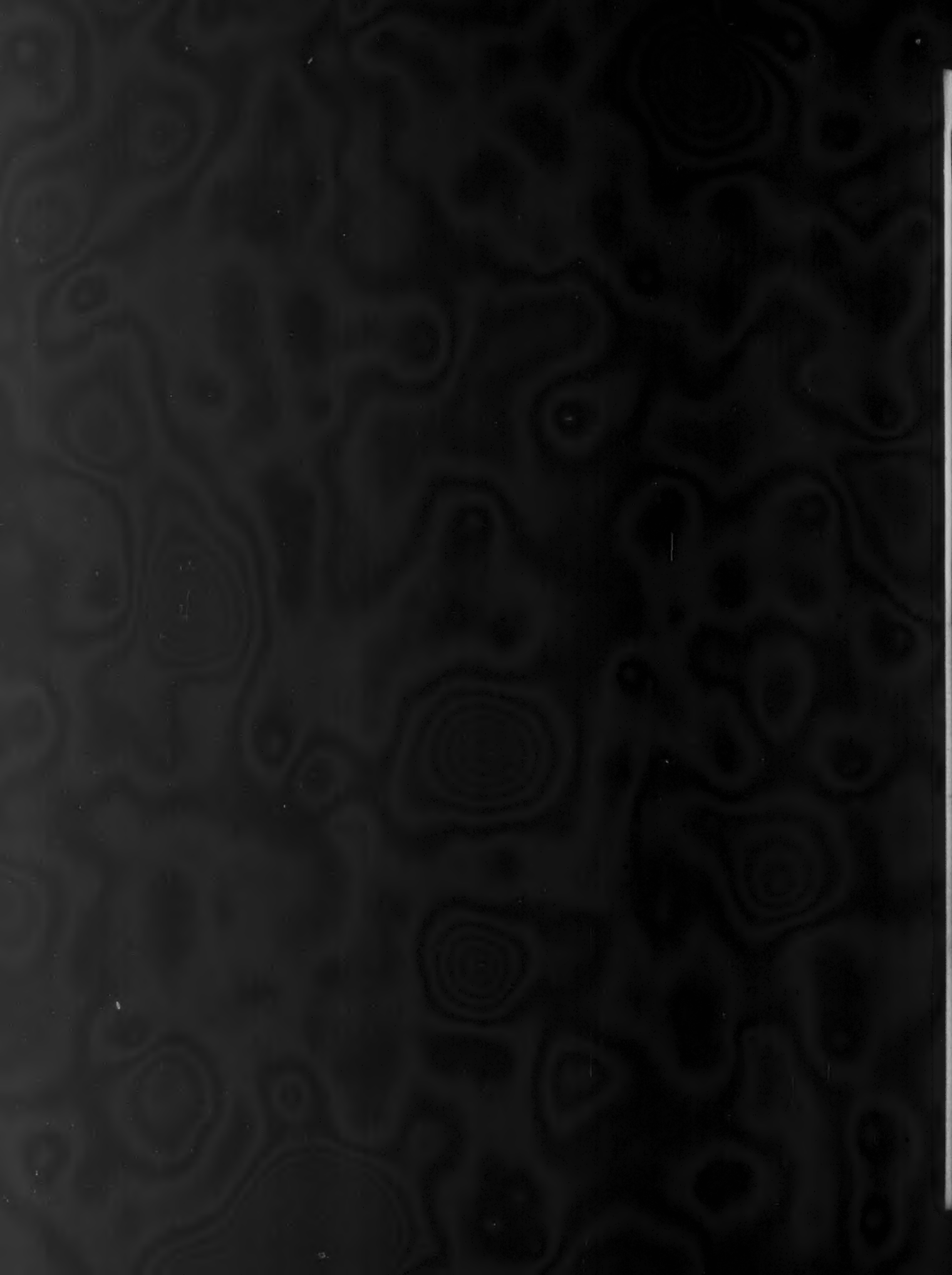
SALES PROMOTION, ADVERTISING OR SELLING. College graduate, 45, who has had long experience organizing in the fields of recreation, sales promotion and sale of both tangible and intangible items, desires to make sales or advertising connection with a Connecticut or New England industrial or commercial organization. He is past president of several fraternal and civic organizations having a wide acquaintance throughout New England. For further details and interview address P. W. 301.

POSITION WANTED. 13 years' experience in large manufacturers' office on scheduling and budgeting. Understanding of standards. 3 years statistical work. Would like opportunity to advance as capabilities warrant. Age 32. Married. Hartford or vicinity preferred. Salary requirements moderate. Address P. W. 302.

TECHNICAL GRADUATE. Young man 22 who was graduated in June 1935 from the Dept. of Electrical Engineering at Carnegie Institute of Technology and who is now taking an additional correspondence course in Diesel engineering, desires a beginner's position with a manufacturer of electrical equipment or appliances or with a producer of Diesel engines. He is well recommended as to character, background and scholastic work by a manufacturer prominent in one branch of Connecticut industry. For interview write P. W. 303.







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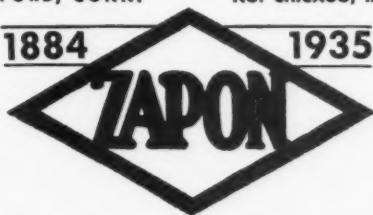
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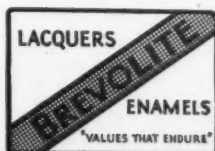
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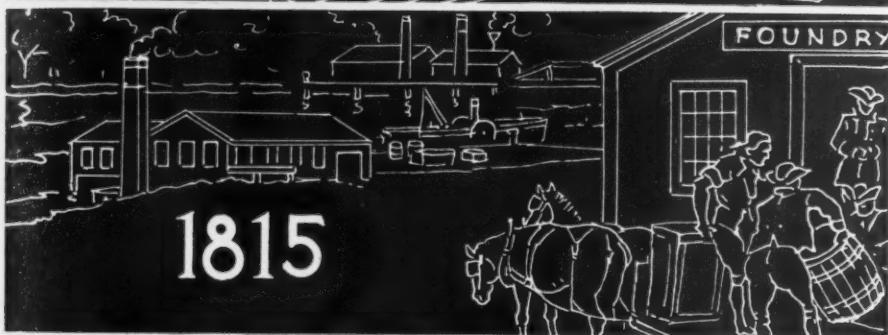
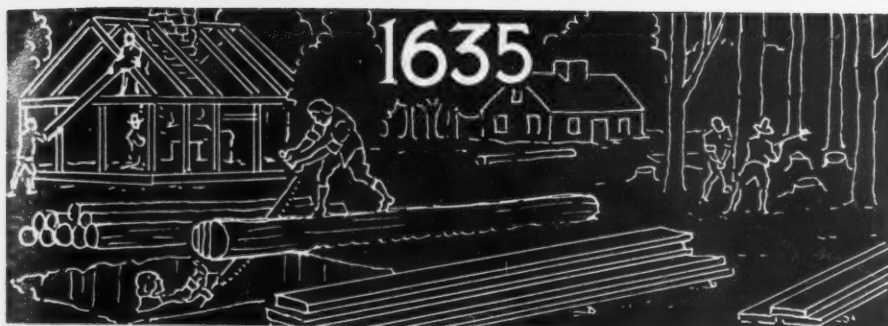


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# CONNECTICUT INDUSTRY

ANNIVERSARY  
1 · 9 · 3 · 5





## Forward, Remembering!

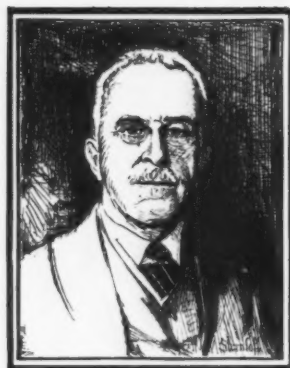
Throughout history, man has tried to give a measure of permanence to contemporary achievement. Graven tablets of stone, medieval manuscripts, printed histories—all these are manifestations of that impulse, whether the conscious purpose be an abiding record for the enlightenment and emulation of posterity, or merely momentary expression of the sense of accomplishment. Out of such an impulse, this anniversary number of *CONNECTICUT INDUSTRY* was born.

The 1935 Annual Meeting of The Manufacturers' Association of Connecticut comes at the climax of the tercentenary celebration of Connecticut's founding as a colony, and is held in conjunction with the Tercentenary Industrial Exposition, which is designed to portray Connecticut's past and present eminence in the industrial field. It commemorates the origin of organized industrial effort, through the creation of "The Society for the Encouragement of Connecticut Manufactories" in 1815. It marks the silver anniversary of the year when the Association took corporate form, after having functioned informally for nearly a century. And it signalizes the coincidental completion by President E. Kent Hubbard of a quarter of a century of active identity with the Association's management.

To pass a milestone of such many-sided significance without formal recognition would be ingratitude to those who have gone before, and injustice to those who must build on the foundations they laid. This issue of *CONNECTICUT INDUSTRY* is essentially a commemoration of a glorious past. But it is offered in the hope that the lessons of that past will point the way for Connecticut industry to a still more glorious tomorrow.

"Forward, Remembering!"





## GREETINGS TO CONNECTICUT INDUSTRY AND ITS LEADER

**I**T is most appropriate that the Manufacturers' Association of Connecticut in their special celebration of the three-hundredth anniversary of the settlement of Connecticut should also commemorate the one hundred and twentieth anniversary of the founding of the Association and the twenty-fifth anniversary of Mr. E. Kent Hubbard's active service with the organization.

The rise of manufacturing in little communities and the later development in industrial towns is a fascinating story, as one may read it in the pamphlets by Professor Clive Day and others, which have been published by the Tercentenary Commission. Manufacturing began in the household and attached sheds and soon extended to small shops and little mills along streams easily controlled, and then on to the great rivers and the use of steam.

From the first the Colony aimed to be sufficient unto itself, disposing of its surplus products of the soil and its manufactured goods, as far as possible, in neighboring colonies. Different communities gradually became well known for their specialties, such as tinware, hats, carriages, clocks, tools, firearms, textiles (cotton, woolen, and silk), boots and shoes, and a great variety of wares called "Yankee notions." Most of these products were sold by peddlers who, on foot or on horseback or in wagons, traversed the Atlantic States to the far south and penetrated into the wilderness as far west as Ohio.

In some towns there were in my childhood many survivals of the primitive industries. Occasionally might be seen the peddler with a carpet bag in each hand or a pack on his back. The tin peddler with his wagon was still an institution. Over in Mansfield where I was born were yet standing, ready to fall, sheds where cannon and bells were cast during and after the Revolution. On the hill and along the Fenton River were small mills for the manufacture of silk thread. The number of workers in these mills ranged from ten to thirty or forty. Earlier the number must have been from five or six hands up to ten.

These small industries afterwards expanded into large manufacturing centers, such as Hartford, New Haven, Waterbury, Danbury, New Britain, Bristol, Meriden, and Bridgeport. We have, for example, cities which take their name from silver, brass, hats, hardware, and thread. The great advance in manufacturing came near the middle of the last century with the use of automatic or semi-automatic machinery in place of hand work, which enabled factories to turn out goods in large quantities. This was the beginning of mass production. It was at this time that agents in New York and other places began to supplant the peddler of earlier days.

On the verge of this great industrial development stands the Society for the Encouragement of Connecticut Manufactories, which was founded in 1815 under the direction

*(Continued on page 48)*



## THE TERCENTENARY AND THE INDUSTRIAL EXPOSITION

**T**HE forces that caused England to produce an Oliver Cromwell and a short-lived Commonwealth were diverted to America to produce a "plague of democracy" for British monarchs for over 150 years. Thomas Hooker, a non-conformist lecturer in St. Mary's Church, Chelmsford, Essex, from 1625 to 1629 was in a large measure responsible for transferring these forces to American soil, and particularly to Connecticut. His words at St. Mary's tormented his ever-increasing congregation into revolt against the Bishops and the Crown and were thorns in the side of the Archbishop of Canterbury. They assured his resignation and forced his flight to Holland. Later after learning of the departure of some of his congregation to America in 1632, he stealthily slipped out of Holland to board the boat, Griffin, sailing from England to Boston in 1633.

Scarcely settled there with an enthusiastic welcome, including gifts of large tracts of land at Cambridge, he with his congregation soon became just as dissatisfied with the strict conformism in Massachusetts as in England. He petitioned the General Court for permission to move to Connecticut with his congregation, but was checkmated with the grant of more land. For a short time he and his congregation put on the outward "cloak of contentment." Then Hooker's congregation disappeared rapidly from the banks of the Charles River, hazarding the wilderness trails to Connecticut rather than accept the rule of the conformist Brethren. Unable to wait longer when

he received word that the Massachusetts Bay Colony planned to exert a stronger influence to hold him in Massachusetts, he set out with the remainder of his congregation on May 31, 1636, to start his famous journey along the Old Bay Path from Massachusetts to Connecticut. Late in June they came to the valley of the Connecticut at the mouth of the Little River near where the villages Wethersfield, Windsor and Hartford soon appeared.

Scarcely settled was this group of hardy pioneers before the Pequot Indians, irate over the intrusion of white men in their domain, threw the settlement in turmoil by starting a war. Although few in numbers and unfamiliar with the tactics of forest fighting, the white settlers carried the war into the Indian country. Ninety men from the three village settlements slipped down the river, unnoticed by the watchful Indian eyes, and made a surprise attack upon a Pequot camp killing all but seven of more than 100 warriors. Attempting to return they met a larger group of some 300 Indians, who beat a sudden retreat after a show of force by the settlers. Joined by men from Massachusetts who had been called upon for aid the pursuing Connecticut settlers finally annihilated the Pequot tribe in a swamp, near the present town of Fairfield.

With this fortunate ending of hostilities the settlers returned to the walks of peace, building homes, churches and tilling the soil in the crude homespun made by the women folk.

To solemnize this auspicious start toward building a commonwealth now known as the "land of steady habits" and the home of far famed "Yankee ingenuity," Thomas Hooker preached a sermon on Sunday morning in May, 1638, using as his text the saying of Moses, "Take you wise men, and understanding, and known among your tribes, and I will make them rulers over you." Interpreting he told his flock:

"The choice of public magistrates belongs unto the people by God's own allowance. They who have the power to appoint officers and magistrates, it is in their power also to set the bounds of the power and place unto which they shall call them."

From this doctrine was drawn the document known as the Fundamental Orders under which the freemen of the colony elected a governor and six magistrates and other necessary officers to administer the colony, together with a General Court elected yearly and consisting of four deputies from each settlement, wherein were vested wide powers and the chief authority.



*Samuel Herbert Fisher*

Three hundred years have reeled off the back of Father Time since these first followers of Thomas Hooker first showed their infinite capacity for embracing the meager opportunities in a savage-infested wilderness and displayed equal ability to govern by a new constitutional formula that remains to this day as the most outstanding single performance in the annals of government. It is fitting that Connecticut as a state, as a group of 169 towns and a body of nearly one and three-quarter million people should celebrate the tercentenary of the settlement and beginning of organized government of the first three towns—Wethersfield, Windsor and Hartford—that the present generation may have their minds focused upon those virtues, arts or scientific principles which made the original accomplishments and those of intervening years possible.

#### TERCENTENARY PLAN LAUNCHED

To make this celebration possible, the General Assembly of 1929 first passed a special act authorizing appointment by the Governor (Governor John H. Trumbull) of the Tercentenary Commission which included the Chief Justice of the Supreme Court of Errors, members of the Connecticut branches of the Colonial Dames of America, and the Daughters of the American Revolution, the president of the Manufacturers' Association of Connecticut, the president of Yale University and other representative citizens of the state.

As originally constituted, the Commission had as its Chairman that accomplished gentleman, business leader and authority on Connecticut history, the late Dr. George C. F. Williams of Hartford, president of the Connecticut Historical Society. Other members first named by Governor Trumbull included: Hon. George W. Wheeler of Bridgeport, the late Chief Justice of the State; Dr. James Rowland Angell, president of Yale University; E. Kent Hubbard, of Middletown, president of the Manufacturers' Association of Connecticut; Mrs. Anne Rogers Minor of Waterford, honorary president-general of the Daughters of the American Revolution; Mrs. Julia Andrews, of Hartford, president of the National Society of Colonial Dames of America ( secretary of the Commission ); Robbins B. Stoeckel of Norfolk, former Commissioner of Motor Vehicles;



and by statute making the Governor an ex-officio member of the Commission, Governor Trumbull was consequently an original member.

The Commission presented to the General Assembly of 1931 a brief but comprehensive report outlining in general terms the plans for the proposed celebration which formed the basis for all the later activities of the Commission, since continued under successive statutory authorizations of 1931 and of 1933. A number of changes have since taken place in the personnel of the Commission. First Governor Cross succeeded Governor Trumbull as ex-officio member, being named as honorary chairman. Following the death of Chief Justice Wheeler, in 1932, his successor to the office, William Mills Maltbie of Granby was named. Samuel Herbert Fisher of Litchfield was chosen by Governor Cross as chairman to succeed Dr. George C. F. Williams who died in 1933. At about the same time two additional gentlemen were appointed to the Commission. Seth Low Pierrepont of Ridgefield, a gentleman with extensive business connections in New York, was appointed to the Commission by Governor Cross and chosen treasurer. Professor George Matthew Dutcher of Wesleyan University was selected historian of the Commission. Within the past year Mr. Pierrepont asked to be relieved as treasurer while still remaining a Commission member and William H. Putnam of Putnam and Company, Hartford, was named to succeed him. Morgan B. Brainard, president of the Aetna Insurance Company of Hartford was appointed during 1935 as the last member of the Commission. Carrying out the details of the work outlined by the Commission under the personal full-time direction of Chairman Samuel H. Fisher was the headquarters staff composed of Herbert L. Crapo, executive secretary; Margaret M. Allardyce, recording secretary; Paul W. Cooley, assistant to the chairman; and Albert R. Rogers, director of celebrations.

Headquarters were established first at the State Capitol, Hartford, and later at the State Library Building in September, 1934. The work of appointing committees, making and publicizing the various subsidiary, but highly important, state, local and special features began in earnest immediately after moving into larger quarters in the State Library. During the previous 5 years little

of the Commission's activities was known to the general public, since it had been engaged in an extraordinary amount of planning and preparation, and the time had not arrived to make announcements with reference to the many activities. The first of the special committees to get its work under way was the committee on Historical Publications, which had issued up until July, 1934, some 29 pamphlets dealing with various topics on the history of the State, which up to the present time had increased that number to a total of 40. Published for the Commission by the Yale University Press they were subsequently distributed for sale through book stores and direct from the publishers.

The second enterprise was launched in June, 1934, by a Committee on Historical Essays under the chairmanship of President Ogilby of Trinity College, which arranged for a state-wide competition among school children and for the distribution of some 30 prizes totalling more than \$200. The prizes were offered to stimulate the interest of pupils in the history of Connecticut and to crystallize the work done in past years in the schools in connection with the study of the colony and state.

Other functions for which special committees were named to do elaborate planning under the supervision and approval of the Tercentenary Commission are as follows:

1. A Committee on Historical Sites, Markers and Guides planned for the erection of suitable historical markers at points where each of the principal highways enter the state and wherever these highways intersect the town boundaries, supervised the publication of a combined map and road guide and urged the adequate marking of industrial plants.

2. A special committee directed the preparation of scenarios for simple pageants and plays for use in schools.

3. Special plates for automobiles announcing the Tercentenary, were manufactured at the Cheshire reformatory and sold to automobile owners in the several offices of the State Motor Vehicle Department at 25¢ per pair.

4. The design and sale of a Tercentenary medal expressive of the established traditions of Connecticut was another committee task.

5. Authorization from Congress was secured for the coining of a commemorative half dollar.

6. A special Tercentenary stamp was issued by the United States Post Office Department in 1935.

7. Souvenir dinner plates were designed and sold under the supervision of another committee.

8. A committee of the clergy representing several religious denominations laid plans for the observance of Connecticut's Sabbath on October 13th when all churches in the state will hold services marked by reference to the part religion has played in the history and development of the colony and state.

9. Another committee planned musical programs for schools and also concerts by choral organizations and orchestras.

10. Numerous committees arranged special exhibitions such as furniture, silver, glass, costumes, utensils and household furnishings, paintings, prints, books, maps and documents.

11. Local committees were also formed in all towns of the state planning a total of 150 exhibits and some type of celebration in every one of the 169 towns during the Tercentenary celebration officially scheduled to close on October 15 with final exercises in Hartford.

12. Exhibits of early inventions and articles of manufacture were planned and held under the sponsorship of local committees in approximately nine towns.

Over 1500 persons have served voluntarily on committees under Mr. Fisher, either in planning some special feature in their particular community, a state-wide feature or assisting in advertising the various events. Before coming to the Commission, Mr. Fisher was a prominent member of the bar having practiced for many years in New Haven and New York. He is also a member of the Yale Corporation and a trustee or director of numerous businesses, educational and philanthropical organizations. Herbert L. Crapo, executive secretary, formerly in charge of publicity of the State Department of Motor Vehicles, was made responsible to Mr. Fisher and the Commission for all publicity released on the celebration. He also assisted in the sales promotion of commemorative medals, half dollars and other souvenir items previously mentioned.

Under Mr. Crapo's direction widespread cooperation in publicity matters was given by a large number of Connecticut business organizations as well as by numerous state and national publications who sent their special writers to Hartford for subject material which afterwards appeared in story form. Likewise a large amount of free time was secured over such radio stations as WTIC and WDRC, Hartford, and WICC, New Haven, over which a number of distinguished speakers and leaders of Connecticut spoke in behalf of some phase of the celebration, or created an interest through relating historical events of the past 300 years. Still other features promoted, were family reunions and Old Home Days. Interest was increased through furnishing genealogical data to inquirers, either residents of Connecticut or from other states. The cooperation of many owners of fine old homes and gardens was secured and the public was permitted to visit them for certain periods. All these and numerous other activities to stimulate interest not only in the state but throughout the nation, were done, including the sending of invitations to the President, the Governors of the various states, to many other notables, and by Governor Cross on January 28, 1935,

"An invitation from the people of Connecticut to their fellow citizens throughout the Union, and to their friends over the borders and beyond the seas."

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The celebration was officially opened in Hartford with a joint meeting of the General Assembly and the Supreme Court of Errors on April 26th, and the second State event held on June 1 at the Yale Bowl, New Haven, was the "Sing," participated in by approximately 3,000 Connecticut voices, members of the various choral clubs of the State. Many other state events too numerous for mention here, were held, but the heart of the Tercentenary observance is to be found in the local participations, and the individual initiative and cooperation of the 169 towns of Connecticut in their various divisions and smaller groups. To this form of celebration, which was particularly fitting to Connecticut, birthplace of the Fundamental Orders, many unusual angles of history never previously recorded in formal historical books, were brought out effectively.

## INDUSTRIAL BACKGROUND AND PARTICIPATION

Because of Connecticut's outstanding achievements in the field of invention and manufacture industrial participation in the Tercentenary program was included as one of the major recommendations of the Commission in its first report to the General Assembly of 1931. It was the feeling of first members of the Commission and those of today that this participation should be of a high order—in fact the premier attraction or climax of the entire observ-



*Henry Trumbull*

ance. This was more than fitting and proper, it was essential, since the story of Connecticut cannot be adequately told without emphasizing the industrial character of a history replete with world-famed accomplishments by many of its inventors and industrial entrepreneurs and without stressing the present day activity which now affords a livelihood to the majority of her citizens.

To this end the efforts of Colonel Fisher, in cooperation with President Hubbard of the As-

sociation were directed during the winter of 1934 and spring of 1935.

Apropos of the magnanimous offer of John H. Goss and his associates in the Scovill Mfg. Co., wherein the full-time services of Mr. E. H. Davis, statistician of the company, were placed at the disposal of the Tercentenary Commission, President Hubbard recommended in his report to the Commission of December 31, 1934, the acceptance of Mr. Davis' services and submitted a plan of action. Early in January, 1935, Mr. Davis was given the official status of "Special Associate In Industry" and began his labors in promoting the industrial exhibit idea by assisting in organizing local exhibit committees and in co-operating with those committees which had already undertaken to include in their program an industrial exhibit. Statistical and research work in industrial history of the state was also a part of his endeavor in order that sufficient background would be available for presentation to a formal committee of manufacturers when selected.

Early in April a representative committee of leading industrialists under the chairmanship of Henry Trumbull, and known as the "Manufacturers' Committee on Industrial Participation," was completed by Colonel Samuel H. Fisher from a list of prominent manufacturers submitted by President Hubbard. Mr. Davis was at once assigned to the committee as "Special Agent." He began first to establish a hook-up with 5 or 6 dozen committees and Chambers of Commerce in the various towns of the state, with the objective of stimulating interest and maintaining uniformity of action to the end that the combined local exhibits would take on the nature of a continuous state observance of industrial attainments leading up to a central historical and educational exhibition of industrial products at Hartford.

The approach to the problem of carrying out a well-rounded industrial observance as decided upon by the committee was three-fold as follows:

1. Letters were mailed to manufacturers urging cooperation with local committees.

2. In other letters manufacturers were urged to purchase and erect a standard form of Tercentenary sign giving the name and date of organization (see illustration) and the names of their principal manufacturing lines; prepare for distribution and for placing at state offices of permanent record Company histories in leaflet

form 6" x 9" size; and to open their plants at certain specified times to visitors, furnishing suitable guides.

3. Preparation of plans for the State Exhibition at the State Armory in Hartford.

Details of this work were carried out by Mr. Davis under the supervision of the executive com-



*Over 100 Tercentenary signs have been erected on Connecticut plants*

mittee, reporting occasionally to the entire committee, and with the close cooperation and assistance of the Manufacturers' Association of Connecticut and the Tercentenary Commission staff. Those serving on the executive committee with Mr. Trumbull were: Charles L. Taylor, president of Taylor and Fenn Co., Hartford; Dudley S. Ingraham, vice president of E. Ingraham Co., Bristol and C. R. Burt, president of Pratt & Whitney Co., Hartford. Other members of the committee were Roy C. Wilcox, vice president of International Silver Co., Meriden, W. R. Webster, chairman of the board of the Bridgeport Brass Co., Bridgeport; Edwin Pugsley, Winchester Repeating Arms Co., New Haven; F. H. Williams, president of J. B. Williams Co., Glastonbury; Carl H. Baldwin, vice president of the American Hardware Co., New Britain; H. Stewart Hotchkiss, New Haven; F. C. Spencer, president of I. S. Spencers' Sons Inc., Guilford; Gordon Harrower, treasurer, Wauregan-Quinebaug Inc., Danielson.

Knowing well that the tremendous task of classifying Connecticut industries into their logical

divisions for exhibit purposes and to build therefrom a cooperative, educational and historical exhibit for each of these divisions, was more of a task than members of the committee could undertake to execute within the time they could devote, the executive committee negotiated with several exposition directors, and finally closed a contract with Mr. G. A. Parsons, well-known exposition director of Waterbury, about July 1. Mr. Davis was thereafter assigned by the committee to assist Mr. Parsons and his staff with the tremendous volume of detail looking toward a proper cooperative and non-commercial observance of Connecticut's glorious past in all its branches of industrial endeavor. To give proper perspective and significance to this endeavor it is necessary to review briefly some of the outstanding developments of the past.

#### REVIEW OF INDUSTRIAL BACKGROUND

Of Connecticut's three centuries the first two are essentially the story of the development of the land and the rise and decline of shipping. To discover the reason for the flowering of mechanical genius in Connecticut one must look to the rigorous living conditions of Colonial days when courage and self-reliance were twin requisites of a good pioneer settler. Necessary farming tools, household utensils and clothing could be obtained only at great expense and effort, and after long travel over dangerous trails and later well-nigh impassable roads to the nearest store or warehouse. Disliking the expense and long delay of such trips, many a settler learned to be his own blacksmith and mechanic. He made hand wrought nails, repaired tools and performed other mechanical tasks for himself. After crops were harvested the more ingenious settler made various hardware items, selling them to his less mechanical neighbors. And from necessity, too, the settler's wife made the family clothes with the aid of the spinning wheel and knitting needle.

Once the tillable land had been taken up and it had been discovered that there were no minerals in the state which could be mined profitably, thousands of Connecticut people trekked westward to seek their fortunes on more land. Of those who remained after the Jefferson Embargo of 1807, many were essentially the more ingenious who had started to turn the handcraft of the 1700's into the early beginnings of today's fac-



tory system, while the remainder catered as merchants or farmers, to the food and mercantile needs of the manufacturing group.

Salesmanship, as we know it today had its earliest beginnings in Connecticut where the itinerant "Yankee peddler" first vended household tinware and other household items from door to door. Securing their supplies from the household tinware shops which started first about 1740 in and around Berlin and Meriden, these enterprising vendors traveled first on foot then on horseback, and finally on wagons, to scattered farmhouses and hamlets from Canada to the Gulf, and west to the Mississippi, to sell and barter their wares. It was they who established a market, at first for the products of the household industries including tin, silverware and hardware items. Later they enlarged their line to include the products of the brass and copper shops, and finally sold tools and machinery. This romantic epoch in distribution lasted long enough (until the Civil War) to lay the foundation for Connecticut's great metal and novelty industries of today. For without a market even the best of latent inventiveness, financial and factory management would have come to naught. Because of his aggressiveness and the importance of the work he performed the "Yankee peddler" has been chosen as the symbol of the genius of the Connecticut Yankee, to whom the Connecticut Tercentenary Industrial Exposition has been dedicated.

Inventiveness, which preceded, and later went hand-in-hand with "Yankee peddler" salesmanship, has been rampant in Connecticut since the earliest days, and since the opening of the Patent Office, in 1790, has given Connecticut the lead over all other states in the number of patents issued in proportion to population. A few of the more prominent of these inventive minds include: Eli Whitney, inventor of the cotton gin and the originator of the "factory system" through manufacture of interchangeable parts; Eli Terry, Seth Thomas, Chauncey Jerome, William L. Gilbert, the Hoadleys, and the Ingrahams, all names allied with clock invention and production; Abel and Levi Porter, Leavenworth, Hayden, J. M. L. and William H. Scovill, James Croft, John I. Howe and Israel Holmes, noted for invention and management ideas in the brass group; Samuel Colt, Christopher Spencer, John Mason, Christian Sharps, Simeon North, Charles

Parker, John M. Marlin, Horace Smith, Daniel B. Wesson and Elisha K. Root, all identified with invention and production of rifles and pistols; Amos Whitney, Francis Pratt, E. P. Bullard, George A. Fairfield, Charles E. Billings, Worcester H. Warner, Ambrose Swasey and numerous others who invented and developed machine tools; David Bushnell and Simon Lake, respectively first inventor and successful developer of the submarine; Eli Whitney Blake, inventor of mortised lock and the first stone crusher named for him; Charles Goodyear, patentee of vulcanization which first made rubber commercially available in satisfactory form; Frank J. Sprague, inventor of street railway controls.



*Eli Whitney*

Between 1800 and 1870 lies the period of greatest activity in industrial propagation and organization in Connecticut. Within that span of years Connecticut's present number one industry, brass and copper, grew in the Naugatuck Valley to sizeable units from a household industry, started in 1802 in the production of brass buttons; the hardware industry had a firm foothold in New Britain; the silverware industry in Meriden and Wallingford; clocks and watches in Bristol, Terryville, Winsted, New Haven and Thomaston; arms and ammunition in Hartford, Middletown, New Haven and Meriden; textile manufacturing principally in Norwich, Danielson, Putnam, Willimantic, Rockville, Jewett City and Stafford; hats in Danbury and Norwalk; rubber in Naugatuck, New Haven, Middletown and Sandy Hook; heavy machinery in Ansonia and Derby; machine tools in Hartford, New Haven, Bridgeport, Waterbury, New Britain and Southington; sewing machines in Bridgeport; malleable iron in Naugatuck; paper and printing in New

## *List of Group Chairmen*

Group	Chairman	Address
<b>Brass</b> <i>and non-ferrous products</i>	John H. Goss	Scovill Mfg. Co., Waterbury
<b>Castings, Forgings and Stampings</b> <i>in ferrous metals</i>	Carl Neumann	Union Mfg. Co., New Britain
<b>Chemicals and Cosmetics</b> <i>including paint, soap, dye, etc.</i>	Levi Wilcox	Apothecaries Hall, Waterbury
<b>Clocks and Time Pieces</b>	Dudley S. Ingraham	E. Ingraham Co., Bristol
<b>Cotton Products</b>	Gordon Harrower	Wauregan-Quinebaug Mills, Danielson
<b>Electrical Products</b> <i>assemblies and parts</i>	Frank W. Hall	General Electric Company, Bridgeport
<b>Garment Hardware and Findings</b> <i>and office hardware</i>	F. M. Holmes	North & Judd Mfg. Co., New Britain
<b>Guns and Fire Arms</b> <i>including munitions</i>	Edwin Pugsley	Winchester Repeating Arms Co., New Haven
<b>Hardware</b> <i>producers and consumers, not including tools</i>	Carl H. Baldwin	American Hardware Co., New Britain
<b>Hats and Materials</b>	T. J. Bowen	The Mallory Hat Co., Danbury
<b>Leather Products</b>	J. A. Roberts	Smith-Worthington Saddlery Co., Hartford
<b>Machinery—Heavy, Light, Special</b> <i>including burners and motors</i>	Charles C. Tyler	436 Capitol Avenue, Hartford
<b>Miscellaneous</b> <i>ivory, glass, ceramics, plastics, etc.</i>	James A. Gould	Pratt, Read & Co., Deep River
<b>Novelties and Sporting</b>	A. R. Benson	W. W. Mildrum Jewel Co., East Berlin
<b>Paper Products</b>	Arthur Peterson	The U. S. Envelope Co., Plimpton Mfg. Co., Hartford
<b>Piping and Valves</b> <i>including boilers and pumps</i>	C. C. Tyler	436 Capitol Avenue, Hartford
<b>Recording and Measuring</b>	Howard H. Bristol	The Bristol Co., Waterbury
<b>Rubber Products</b>	Carlton H. Gilbert	U. S. Rubber Co., Naugatuck
<b>Silk and Rayon Products</b>	Buell H. Heminway	Heminway-Bartlett Co., Watertown
<b>Silverware and Cutlery</b> <i>including jewelry</i>	F. C. Stevens	International Silver Co., Meriden
<b>Springs</b>	Fuller F. Barnes	Wallace Barnes Co., Bristol
<b>Steel and Wire</b>	Maurice H. Pease	American Tube & Stamping Co., Bridgeport
<b>Thread, Twine and Webbing</b> <i>including net, lace, embroidery</i>	T. M. Russell, Jr.	Russell Mfg. Co., Middletown
<b>Tools</b> <i>both hand and machine</i>	Charles C. Tyler	436 Capitol Avenue, Hartford
<b>Toys</b>	F. Wellington Gilbert	The A. C. Gilbert Co., New Haven
<b>Typewriters</b> <i>including counters</i>	Charles B. Cook	Royal Typewriter Co., Hartford
<b>Wood Products</b> <i>including boats and furniture</i>	C. B. Ricketson	The Hartford Builders Finish Co., Hartford
<b>Wool Products</b>	William C. Park	The Airlie Mills, Hanover

London and Hartford counties; and leather goods in Hartford and Bridgeport.

From 1870 to the present, although a period of further organization but to a lesser degree from the standpoint of the larger units, was marked by expansion, reorganization and mergers.

From this necessarily sketchy outline, which scarcely scratches the surface of the useful inventions, discoveries and developments of Connecticut mechanics and engineers and shows their marked influence on developments throughout the nation, it can be readily seen why the present generation of Connecticut manufacturers who have built upon these foundation developments many sizeable establishments, should take just pride in exhibiting them together with their improvements of the present day.

To adequately portray the history of Connecticut's progress in invention and manufactures as highlighted in the preceding paragraphs, from the crude handcraft forms to present day development within the brief time from July to October 2, the opening day of the Exposition, meant intensive work and cooperation of the highest order. In cooperation with the Manufacturers' Association of Connecticut, Messrs. Parsons and Davis secured chairmen for each of 28 industrial divisions or classes of products into which the industry of the state was divided by the Committee. Meeting with these chairmen at the newly acquired Industrial Tercentenary headquarters at the Bond Hotel, late in July, chairman Trumbull, Messrs. Davis and Parsons explained the plan of setting up each of these individual cooperative progressions representing all industries in the State. Each chairman was advised further in a brochure of the whole plan including a floor plan of the State Armory broken down into spaces allotted for each group. Thereafter each chairman contacted all members of his own group class to secure their cooperation in furnishing products for display arrangement by an exhibit committee made up of staff men of the various companies in each division, selected because of their past experience in exhibition work.

Thus have the 28 individual displays to be

opened to the public October 2 to 12 been progressed toward a graphic picture of what Connecticut was and is industrially at the end of the first Three Hundred Years. The exhibits have been planned in no sense to be isolated or unrelated, but rather intended to fit into the large general scheme of industrial evolution. While the historic past will play an important part in the scheme of the display, the living present will be accentuated to demonstrate to thousands of visitors Connecticut's important position in the manufacturing world. Most of these displays will be activated and in motion with several important feature attractions including an old mill in actual operation and murals showing the progress of Connecticut industrially. The Bell Laboratories, Research Organization for the Southern New England Telephone Co., will provide an outstanding "Hear Your Own Voice" demonstration which has been a popular feature at other expositions. Men and women of national prominence invited by Governor Cross and the Tercentenary Commission will be in attendance, some of them broadcasting from a specially constructed crystal studio erected for regular broadcasts by Station WTIC Governors' Day, and other days have been set aside for special features. For six weeks a special publicity staff under the direction of Messrs. Parsons and Crapo have been releasing articles to the press on the background history of the state and the special exhibits.

On the opening day, The Manufacturers' Association of Connecticut will hold its annual meeting and preview of the Exposition prior to the official opening, October 2, by a radio address by Governor Cross.

This auspicious display of Connecticut Yankee ingenuity, which thousands of school children and students are scheduled to visit, should be both a challenge and inspiration not only to the present generation engaged in industry but to those who will be at the helm and in the ranks of industry within the next quarter century. It is expected to do ample justice to the industrial inheritance which has given Connecticut its chief claim to fame; to the majority of its citizens a livelihood, and to its people of the next Tercentenary a monument.



## ONE HUNDRED AND TWENTY YEARS OF ENCOURAGEMENT: TWENTY-FIVE YEARS OF ORGANIZED EFFORT FOR CONNECTICUT INDUSTRY

**I**N the vocabulary of humans the words protection and encouragement take first and second place. They are the allies of man along the complete range of his emotions, in private, business or public life. They have been the handmaids of progress toward a more enlightened existence upon this planet.

Primitive man found protection in the skins of animals, clubs, caves and the thorn hedge. From his small successes in the realm of protection, he received encouragement to strive for more protection against his enemies—the elements, man and beast. And from these efforts he received added encouragement which continued to spur him on to new activity. Quite early in his career, he learned to use herbs to relieve certain of his bodily ailments and to utilize certain vegetable and mineral matter in making objects of beauty and utility.

Gradually from constant striving to better his lot, he entered the medieval stage when he contrived to build giant pyramids and obelisks, castles of Gargantuan grandeur, armored dress and large swords, for protection and aggression; sea-worthy sail boats for the development of commerce with other nations. With his acquisitive

instincts sharpened he learned to adapt by crude happenstance methods more and more of nature's treasures in metals and vegetable matter. Throughout this era there was a small group of thinkers—the philosophers and alchemists—who began to search the skies and the earth for the answers to current questions, and to propound for the benefit of their students their theories of the Universe and life in it. They concluded that life was largely controlled by the planets, that untold wealth was to be had if a mystical substance called "Philosophers' Stone" could be located, which would transform ordinary cheap metals into gold.

Although false, as their philosophy has since been proved, it was a worthy and necessary exercise in the evolution of human thinking midway between instinct and the practical method of solving the world's problems. For out of this stage were evolved the beginnings of modern philosophy, practices and methods which have come into full flower during the past quarter century.

In America, which had caught the hardy overflow of independent thinking aristocrats and laymen of England and Europe from 1620 to 1815, there had grown up, after the strife and struggle of colonization, conquest and two wars with



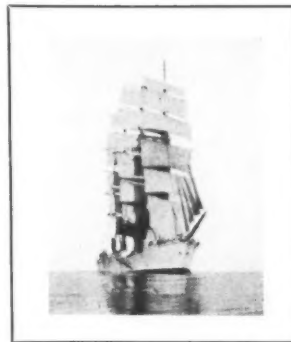
Mother England, the strong desire to become self-sufficient in the production of manufactured articles.

In Connecticut, which nurtured the first independent turn of mind, in violent disagreement with ". . . Our Lords, the Brethren . . ." of the Massachusetts Bay Colony, there was formed in 1815, at Middletown, "The Society for the Encouragement of Connecticut Manufactories," believed to be the first collective movement on the North American continent to grapple with the problems confronting budding industry.

This organization was the natural outgrowth of the great twin urge of mankind for protection and encouragement. The War of 1812 had just closed, victorious in arms for youthful United States. But the conflict coupled with the Jefferson Embargo had cost our new nation the loss of the major part of its commerce. Not content with that blow, defeated Britain sought once more, as she had done after the Revolution, to hold her manufacturing supremacy by "dumping" in America all manner of products of her factories at prices far below the cost of production by the few infant industries in the United States. That business men of Middletown should have taken the first steps to protect and encourage industry was most logical since it had suffered most of the Connecticut towns by the loss of its lucrative shipbuilding industry and water borne commerce. Although other Connecticut towns, which had started to develop manufacturing prior to Middletown were also suffering from cheap English imports, none felt the need for drastic action like the once lively and prosperous fountain-head of commerce on the Connecticut River. And so, in their determination to overcome all obstacles in the way of building prosperous manufactories for Middletown and the state, Hon. S. Titus Hosmer as president; Hon. Asher Miller, Alexander Wolcott, Esq., Nehemiah Hubbard, Esq., Thomas MacDonough as vice president; Elijah Hubbard, Esq., Levi H. Clarke, Esq., as councillors, and John Pratt, Esq., as treasurer, began the work of "The Society for the Encouragement of Connecticut Manufactories" by together preparing a report on the then current state of affairs.

The report shows the similarity of the problems of 1815 and those of today. True, there

were differences but these were almost entirely in the condition of the nation rather than in the means for proper solution of the problems. Then the nation and the state had just started to develop in earnest from the household to the factory stage. Now our factory system and plant equipment is unequalled by any nation in the world. However, continued protection and encouragement is needed to perpetuate the thriving industry of today just as it was so necessary in 1815 to promote its expansion.



Other old documents of a vintage just prior to 1815 and covering a decade thereafter, show that the problems of stream pollution by factories and municipalities, research, taxation, transportation at reasonable rates, and unwise legislative proposals created as much concern then as now. In the interim of years from 1815 to 1910 the "Society for the Encouragement of Connecticut Manufactories" was kept alive in spirit if not always in name. Many times either this loosely knit organization or an informal group of manufacturers, schooled in its philosophy, found it necessary to hold council and select certain able leaders to represent the whole of industry in the halls of Congress or at the General Assembly at Hartford. One brilliant example of a notable piece of work done by these representatives of industry was that which caused the reversal of a decision by the Secretary of the Treasury who ruled sheet brass and wire as unmanufactured articles to be admitted free of duty. The contact work with Connecticut representatives and Henry Clay, author of the original legislation, was done by Israel Holmes and Israel Coe of Waterbury in 1833. After a bitter struggle they were able to introduce and secure passage of a new bill which

included sheet brass and wire in the list of manufactured articles and retained the 25% tariff established in 1818. This enabled the brass and copper industry to expand and become Connecticut's largest industry by 1860.

Numerous other references are made in old documents to efforts made by small groups of manufacturers to encourage industry by opposing legislation which would tend to undermine it. In the year 1901 there were 75 manufacturers who subscribed \$10 each for legislative work, meeting on occasions to discuss their problems with counsel. The Board of Trade office in Hartford was the scene of a meeting of leading manufacturers on February 19, 1903, gathered together to oppose certain measures inimical to manufacturing enterprises. The meeting was called by Lewis C. Grover, then president of Colt's Patent Fire Arms Manufacturing Co., and invitation was sent to 25 manufacturers in Ansonia, Hartford, New Haven, Bridgeport, New Britain, Norwalk, Meriden and Collinsville. Only ten attended the meeting, which named Edward H. Sears of the Collins Company, Collinsville, chairman and John Spencer Camp of Pratt and Cady, Hartford, as secretary. The meeting also authorized the chairman to appoint a committee of ten to act in legislative matters, authority being granted to the chairman and secretary of the committee to engage counsel. On account of being counsel for a number of Hartford county manufacturers, Charles E. Gross was named counsel for the whole group, which he subsequently served for a number of years.

Later, on March 11, 1903, there was mailed a printed circular to manufacturers throughout the state asking for contributions to meet necessary legislative expenses. Still later, in May and June, calls were made for additional funds. The committee drafting and mailing these circulars included: Frank W. Cheney, Cheney Brothers; Edward H. Sears, Collins Company; George A. Fairfield, Hartford Machine Screw Company; Charles M. Jarvis, American Hardware Corporation; A. H. Bullard, Bullard Machine Tool Company; A. W. Stanley, Stanley Rule and Level Company; L. C. Grover, Colt's Patent Fire Arms Mfg. Company; William C. Skinner, Colt's Patent Fire Arms Mfg. Company; F. C. Rowland, A. E. Rowland and John Spencer Camp, Pratt and Cady Company.

Interest in organized effort was on the increase at this time as indicated by letters received by Colonel Charles M. Jarvis, of the committee, from James A. Doughty, secretary of the Coe Brass Mfg. Company of Torrington, G. W. Jackman, general manager of the Springfield Mfg. Company of Bridgeport and a number of other manufacturers from different sections of the state. A composite of these letters said in substance:

"We believe that a fund should be created and that the Association should have some basis in fact rather than a voluntary existence. We are firm believers in the idea of a Manufacturers' Association in the state, and we trust that the day is not far distant when we will have a strong State Association."

In 1905 the names of the same committee members appeared at the bottom of another general invitation to meet and discuss the legislative problems confronting Connecticut Industry. Another step was taken toward a formal organization; an executive committee was appointed which included not only the men on the original committee, but



*Israel Holmes  
most prolific organizer of brass companies*

also E. S. Boss, of Willimantic, H. S. Chase of Waterbury, and W. H. Lyon of Meriden. Making another move forward toward a permanent organization, officers were elected in 1906 as follows: Colonel George Pope, Pope Manufacturing Company, Hartford; first vice-chairman, E. Kent Hubbard, Jr., Russell Manufacturing Com-

pany, Middletown; second vice-chairman, A. H. Bullard, Bullard Machine Tool Company, Bridgeport; secretary, D. W. Williams, J. B. Williams Company, Glastonbury; treasurer, Charles M. Jarvis, American Hardware Corporation, New Britain; counsel, Charles E. Gross, Gross, Hyde and Shipman.

From the sparse records of that day, when no headquarters office was maintained, it has been impossible to secure complete details of group action. Talk had been rife for several years on organization of a permanent state association, but in 1908 it had subsided somewhat. However, like all tides of progress the ebb turned, and the flow toward permanency started again, in earnest, the following year. Dinner meetings were held in different sections of the state under the sponsorship of the executive committee with the strong support of the local associations in Bridgeport and Stamford, both of which were enthusiastically in favor of the inauguration of a formal state association. The enthusiasm spread as the dinner meetings continued into 1910. The name "Manufacturers' Association of Connecticut" was adopted by unanimous consent and appeared on legislative bulletins sent out that year under the names of Colonel George S. Pope, chairman; Colonel Charles M. Jarvis, treasurer, and an executive committee including John F. Alvord, E. S. Boss, George T. Brown, A. H. Bullard, A. R. Crittenden, Fred B. Farnsworth, George E. Keeney and Clarence E. Whitney.

Later, in October, 1910, the urge for permanency in organization culminated in the general call for a meeting at the Allyn House, Hartford, on November 22. There a resolution was passed as follows:

"RESOLVED, that the chairman of this meeting, Colonel George Pope, of Hartford, be requested to appoint one manufacturer from each county in the state as a committee to adopt a constitution and by-laws and formulate plans for a permanent Manufacturers' Association in the State of Connecticut, and

"BE IT FURTHER RESOLVED that when such organization has been perfected and one hundred manufacturers throughout the state have enrolled themselves as members, that the treasurer of the present Manufacturers' Association of Connecticut be instructed to pay over to the perma-

nent organization such funds as he may have on hand.

"BE IT FURTHER RESOLVED that the expense of perfecting such permanent organization be paid by the treasurer of the Manufacturers' Association of Connecticut from the funds now on hand."

#### THE CORPORATION FORMED

In accordance with the resolution an organization committee of manufacturers, one from each county, was appointed and at a meeting at the Hartford Club on December 16, 1910, The Manufacturers' Association of Connecticut, Inc., came into being. (See incorporators, photos and names on page 16.) By-laws providing for annual dues of \$10 for those employing 200 or less and \$20 for those employing more, were adopted. They also provided that meetings should be held in Hartford. Colonel Pope was elected president and Colonel Jarvis vice-president and treasurer, all other incorporators being members of the Board of Directors.

On the day of incorporation, the Executive Committee (officers and directors) met and granted Colonel Pope authority to engage Philip E. Curtis as secretary, and to rent a small one room office in the Phoenix Bank Building at 803 Main Street, Hartford. In addition to his legislative work and some traffic matters, Mr. Curtis with the cooperation of the first 100 charter members, increased the membership to 280 by the close of 1911 when the first roster was published. Liberal credit must be given to the local Manufacturers' Associations in Bridgeport, Stamford and Hartford, and to the Fur Hat Manufacturers' Association of Danbury and Bethel, for the enthusiastic cooperation given to the organization of the State Association and to its early membership campaign. Without this well organized support the state-wide organization could not have been launched at this propitious moment, when the increasing problems of true modernism were being ushered in with the constantly increasing automobile production and all that this new industry stimulated in science, invention, art, agriculture, construction, salesmanship and politics.

Here was, at last, the opened bud of the idea—unspoken perhaps—entertained by those men of 1815 when they met informally—created an informal "Society for the Encouragement of Connecticut Manufactories." It had taken 95 years

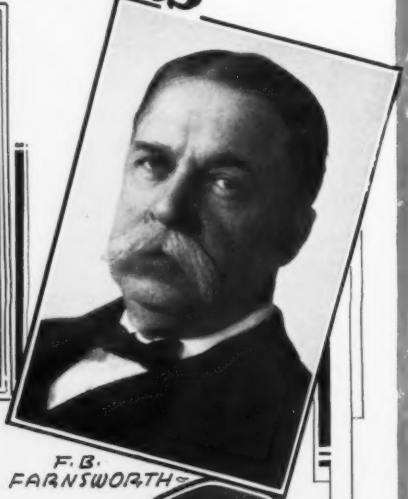
# INCORPORATORS



GEORGE  
A. VAUGHAN



E. KENT HUBBARD



F. B.  
FARNSWORTH



GEORGE  
T. BROWN



COL. GEORGE POPE



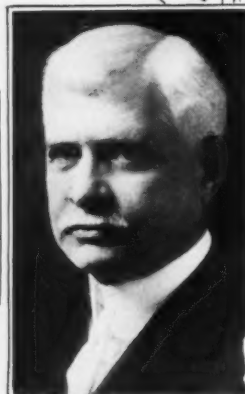
COL.  
CHAS. M. JARVIS



J. F. ALVORD



C. E. WHITNEY



A. H. BULLARD



GEO. E. KEENEY

CPK



to unfold its petals, one by one at each meeting, but like all worthy objectives, often dimly conceived at first, they grew under cultivation to meet the need. During those years the nation had been transformed from a sparse scattering of cotton, woolen and grist mills, the gunsmith's shop and the smithy to one of thousands of modern factory establishments, some of which covered more floor area than all manufacturing facilities of 1815 combined. With expansion came more varied and complex problems which, in turn, forced the birth

joined as a state, the Union of United States for the common good of all. And now here was Connecticut industry coping with modernism at last with the tool grim necessity demanded—a permanent form of planned cooperative action led by men of vision endowed with the qualities of leadership. How well these chosen leaders have performed their tasks for industry through the quarter century may be observed in the following, necessarily brief, account of the Association's most outstanding accomplishments.

## PRESENT OFFICERS



of a new vehicle of cooperation—The Manufacturers' Association of Connecticut, Inc. It was but a mere repetition of the hoary-headed protection and encouragement idea, which first forced single families into clans; clans into tribes, and by degrees brought one nation after another into existence through repeating the same process.

Despite the rampant independence of the first self-reliant settlers of Connecticut they cooperated to build protective stockades for protection against the savage Indian. Later they banded together in towns, colonies, counties and finally

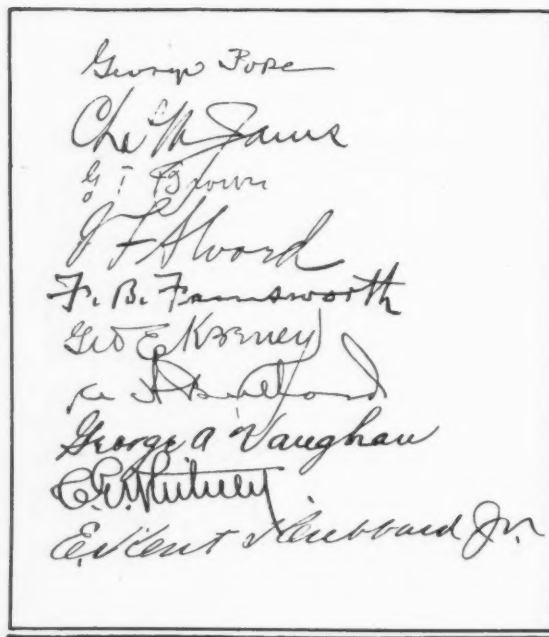
### MEMBERSHIP

Except for the charter members, who were largely those most interested at the time in the benefits to be derived by cohesive group action, and whose names were secured by the organizing committee, there has been little concerted effort made through the years in membership activity as a separate entity. Members have been gradually added to the roster by the "service first—membership last" method. True many non-members were told of the Association's service to industry either by staff members, when in the vicin-

ity for the performance of some other service for members, or by their fellow manufacturers who were members. Again, in many cases, they observed the benefits of this cooperative effort, and made inquiries which eventually resulted in their affiliation with the organization. However, in no case after organization and the first "build-up," covering a period of about 3 years, has a staff member devoted any appreciable proportion of his time to membership solicitation exclusively. On the contrary the Association has grown through the years largely by "word of mouth" advertising by members, enthusiastic over its accomplishments. Deeds, instead of sales talk, have been the most potent forces for the Association's development in numbers, which today stands at an all-time peak.

#### LEGISLATIVE ACTION

The threat of federal and state legislation which would discourage rather than encourage manufacturing enterprises has always been paramount throughout the quarter century of the Association's corporate existence, and before in the less formal organizations including the Association's progenitor of 1815 vintage—"The Society for the Encouragement of Connecticut Manufacturers."



*Signatures of Association Incorporators*

During the early days before incorporation of the Association, some enterprising and alert manufacturer, or several of them, acted as "Paul Reveres" to spread the news by letter, word of mouth or in person, whenever legislative threat to industry presented itself either in Congress or in the General Assembly. The procedure was similar when a bill was to be presented to encourage investment in manufacturing enterprises. In both instances meetings were held and a committee appointed to present the wishes of the majority.

Functioning at the start, after incorporation, the "Paul Revere" was the secretary, who both warned and suggested action to the executive committee, board of directors and finally to the membership, if and when such action was approved by either or both of the governing groups. Philip E. Curtis, the first paid staff secretary, was the one who first devoted much of his time to legislative work in behalf of Connecticut manufacturers.

Immediately after adjournment of the first annual meeting, President Pope appointed a committee on Workmen's Compensation, the first of the Association's large number of committees which have functioned through the years, and which today are performing invaluable service to the industry of the state. The compensation committee, charged with the responsibility of changes in the liability and compensation laws of the state were: Howell Cheney, chairman; Henry B. Sargent, C. D. Rice, W. R. Webster and John Eccles. After making an exhaustive study in the liability and compensation laws of Germany, Great Britain and those of other states, the committee recommended a compensatory system which would waive the basis of fault on either side except in the case of serious and wilful misconduct, and would substitute a limited award in place of unlimited damages. These recommendations were unanimously approved by the board and by the entire membership, and eventuated in the passage of a new workmen's compensation act during the 1913 session of the General Assembly, which contained substantially all of the committee's suggestions. In addition to the compensation legislation during the session of 1913 the Association interested itself in all other legislation pertaining to manufacturers, including the 55 hour law for women and minors which it did not oppose.

Taxation legislation became the prime interest of the Association in 1915 when it became appar-

cent that something drastic had to be done to offset a large deficit which faced the state. President A. H. Bullard, who succeeded Col. Pope, being elected at the 1913 Annual Meeting in December, appointed a tax committee headed by C. T. Treadway of Bristol, which made a thorough investigation of tax conditions in Connecticut and other states. As a result of its labors the Corporate Excess Bill was abandoned in favor of an income tax bill, and the General Assembly raised a commission to codify the tax laws. Simeon L. Baldwin, New Haven; Guy P. Miller, Bridgeport; and Frank H. Stadtmueller of West Hartford were appointed to the Commission.

Later in 1916, C. T. Treadway was again appointed chairman of a special tax committee, with Charles F. Smith and Shiras Morris as the other members, to investigate the feasibility of the Association sponsoring a new manufacturers' tax bill. A tax survey had been launched by the State Chamber of Commerce under the direction of Professor Fairchild of Yale and the Association undertook to share the expense and assist in gathering pertinent data.

The Association then recommended to the State Chamber that a tax bill be drafted and presented to the Legislature, which would centralize all assessing power in connection with real and tangible property and would substitute for the personal intangible property tax an income tax to apply not only to miscellaneous corporations but to individuals and partnerships. After members had approved the proposal which included the reduction of the miscellaneous corporations tax from 2% to 1%, the effort was abandoned in March, 1917, with war clouds hovering near.

In 1917 the Association submitted a bill to the Legislature which provided that the Governor should appoint a commission of five to cooperate with and advise the State Board of Health regarding the pollution of streams and that \$25,000 should be appropriated for carrying out the act. With the passage of the bill and the appointment of a commission including John H. Goss, the first sound constructive work was started with a study of the pollution of the Naugatuck River.

During the war years of 1917 and 1918 the Association also took an active part in legislation pertaining to war contracts, especially opposing the interference of federal agents in labor relations except by request.

In taxation matters too, it was aggressive, Professor Fairchild being engaged in 1918 by recommendation of the permanent tax committee appointed the previous year to make a study with a view of distributing the tax burden more equitably. As a result of the investigation a bill was proposed, but finally turned down for lack of unanimity among members, which eliminated the personal property tax of miscellaneous corporations, proposing to make up the resulting loss in revenue by increasing the rate of the state income tax paid by corporations. Although the bill was never introduced, the investigation nevertheless unearthed information which has since proved of great value to the Association and its Committee on Finance and Taxation in protecting members' interests when subsequent tax legislation has been advanced.

Toward the end of 1918 the Association sent a special committee to Washington to confer with the Finance Committee of the Senate relative to certain vicious portions of the then pending Federal Revenue Bill. As a direct result of this committee's work there was written into the bill an amendment suggested by the Association, which offered substantial relief to manufacturers in the matter of inventories. At the same time the Association joined with the National Conference of State Manufacturers' Associations in opposing certain objectionable features of the War Revenue Bill. Again success rewarded the efforts of the Association in cooperation with other industrial groups, for the 18% tax on undistributed net income was eliminated, and the normal 12% tax made to apply. Many other federal bills threatening injury to industry were also opposed successfully.

Legislative activity in the General Assembly through 1919 to 1921, while dealing with several hundred individual bills, was largely focused in opposition to one creating a commission to fix minimum wages; one to license plumbers, firemen and engineers; measures making intimidation and black listing unlawful; hours of labor shortening; one prohibiting entirely the use of suction shuttles; one making drastic changes in sanitary requirements in regard to drinking cups. All of the bills previously mentioned were defeated while the latter two passed in substitute form not detrimental to the fair-minded interests of manufacturers.

The high point of Federal legislation in 1921 was the tariff. Had it not been for the World War flurry of production activity the low Underwood tariff, passed during the first Wilson administration, would have brought ruin to Connecticut industry. After the World War it began again to become a serious threat, so serious in fact, that during 1921 a committee of manufacturers was appointed by the Association to demand that American rather than foreign valuation be applied when computing the tariff. In part, American valuation was established in the ensuing Fordney-McCumber Tariff of 1922. In the fight for the extension of an adequate protection the late Senator McLean was a tower of strength, fighting to the last ditch for what he considered essential in protective tariff rates for the industries of his state.

The Legislative session in the General Assembly of 1923 marked the beginning of the first hard fight of the Association against drastic curtailment of the work day to 8 hours and the week to 44 hours. Further, a wholesale attempt was made to change the workmen's compensation act. The results, however, were favorable since none of the large number of legislative bills, unfriendly to the prosperity of industry, were passed.

In the General Assembly of 1925 came the first real intensive drive for compulsory liability insurance for automobiles, which has continued in each session since without success. But in the 1935 session a commission was appointed by the Governor to investigate it from all angles and to report to the 1937 Legislature. Old Age Pension legislation also made its appearance in a very poorly drafted bill, which was opposed successfully as have been all others with the exception of the one introduced in 1935, which passed without opposition from the Association. The Highway Safety and Scenic committee under the chairmanship of Mr. F. S. Chase, president of the Chase Companies, took an active part in the 1923 session through its work in connection with the regulation and placing of outdoor advertising signs. Through conferences with garden clubs, advertising sign executives and the state highway department they succeeded in adding beauty to the roadsides by having many of the view-obscuring signs moved nearer the cities on the non-scenic portions of highways and secured the removal of many dangerous curves. This committee has

continued its efforts for highway safety and beautification with much success through all sessions since 1923. Ratification of the Federal Child Labor Amendment was also defeated in the 1923 session and in every succeeding session to date.

One of the outstanding federal bills opposed by the Association first in 1922, again in 1924 and subsequently in different forms by various sponsors was the so-called Hull bill, which provided for the manufacture of all supplies used by the government in government establishments. Certificates of compliance have been used under the New Deal to force this type of legislation.

The outstanding development of the 1927 session of the General Assembly was the revision of the Compensation Act,—a move approved by the Association. Among the more important changes made were the striking out of the amendments of 1919 and 1921 concerning occupational disease and a more exact definition included. Weakened resistance was made the basis for compensation claim. Benefits were increased in case of death from \$18 to \$21. Burial allowance was increased from \$100 to \$200. Indemnity for specific dismemberments were also increased.

It was during the 1927 session that the State Department of Health was induced to appropriate a sum of money to study occupational diseases. Many important changes were made in the motor vehicle laws with reference to weights, equipment, etc.

Coming into the year 1929, we find the most important consideration of the Association given to such state legislative proposals as unemployment insurance, old age pensions, amendments to compensation act, hours of labor bills and licensing bills. All proposals with the exception of the workman's compensation act amendments were successfully opposed. The decision of the Supreme Court of Errors in the McCook case made it necessary to convene a special session on August 6, to validate a number of the acts of the regular session which the Governor had failed to sign within the specified three day limit.

In 1931 the Association made an exhaustive study, under the guidance of a special committee, of the conditions under which the aged dependents of Connecticut were living. After months of field work and library research, a 180 page report "Old Age Dependency in Connecticut" was published and distributed to members of the Judiciary Com-



mittee, a number of prominent officials, manufacturers and to numerous libraries, insurance companies and social agencies. In fact orders are occasionally received up to the present time for this report, which is now "out of print." Because of the broad scope of this study, it received most favorable comments from well-informed quarters and has been sought by students of economics as a reference work. After examining the report carefully, the Judiciary committee recommended deferring action on the passage of Old Age Pension legislation until a further study by a commission had been made. Unemployment insurance, reduction of the hours of labor for women and numerous other controversial measures which would have been harmful to industry were also rejected by the General Assembly of 1931.

For the 1933 session of the General Assembly a special committee on Unemployment was appointed by the Association to prepare a report on "Unemployment and Its Problems." After a thorough research into European practices, results and the conditions existing throughout the United States, the report was written and published in the form of a 206 page book. It, too, gained national prominence as an authoritative work on the subject of unemployment. The ill-conceived unemployment insurance measure was defeated in the 1933 Legislature. Another contribution made by the Association in the cause of sound legislation was in the form of a bound report, "The Elimination of the Sweatshop," which made concrete suggestions for legislation to strengthen the laws prohibiting the operation of sweat-shops. Higher penalties and a new method for locating all new shops opening in the state were important among the suggestions made.

A tax commission, headed by George T. Kimball, president of the American Hardware Corp., was named by Governor Cross in 1933, to make a complete study of the tax structure of the state. To this commission the Association gave cooperation in presenting at hearings various angles of the tax situation as it pertained to industry.

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During 1929 the Hawley-Smoot tariff bill was in the making with a view of giving American industry the protection it had grossly lacked under the Underwood Act of 1913 and the Fordney-McCumber Act of 1922. Realizing his need of

someone who knew the protection necessary for the continued well-being of Connecticut industries, Senator Bingham, then a member of the Senate Finance committee, asked the Association to furnish him with an authority on the subject. In response President Hubbard sent his assistant, C. L. Eyanson, with all tariff facts concerning the needs of Association members. Those who read the press of that period know of the censure given to Senator Bingham for his action. But industry and the public owe him a debt of gratitude that probably will never be repaid. First it was largely through his intelligent efforts in learning first hand of industry's needs, and in fighting for their rates, that Connecticut and American industry has been able to withstand the onslaught of distress foreign merchandise which sought a market in the United States since 1929. The Hawley-Smoot tariff, although accused by the importers of being too high, has afforded no more protection than necessary to a healthy domestic industry, and in numerous cases the rates were not placed as high as they should have been because of conflicting interests. Regardless of what may be said of it and certain of those who had a part in its making, it has stood as a bulwark of protection over industry. However, the reciprocal tariffs are now making some inroads into it, which may eventually be to the everlasting regret of this nation.

Since the dawn of the "New Deal" the first installment of which was ushered in with the first legislative session, starting March 9, 1933, the Association has passed through the most hectic period of activity in its entire career. The Bank Holiday by Presidential proclamation which lasted from March 6 to March 15 (some banks opened 13th and 14th) caused a flurry of effort by way of assisting with arrangements for paying workers and in collecting local information on wage payment practices and passing it along in bulletin form to all members to further aid them in working out their problems.

The Black Bill calling for a national work week of 30 hours, 5 days a week and 6 hours a day, was the first bomb-shell thrown into the lap of industry. It was quenched in unfriendly industrial waters. But as an outgrowth of it came the Wagner Labor Disputes Bill, passed in 1935, which many believe will prove even worse in its aptitude for fomenting labor disputes. Space lacking even for the bare enumeration of the large

number of federal legislative bills which the Association has followed closely, and opposed in one instance to the extent of moving en masse on Washington with nearly 200 industrial executives, the writer will attempt to picture these exciting days by relating only a few of the more important incidents.

On May 17, 1933, Senator Wagner of New York introduced the National Industrial Recovery Act, more innocently known as S. 1712. With its broad implications for the regulation of all industry, its announcement and cursory study caused much anxiety in industrial quarters. Since no counterpart had ever before appeared in the annals of American legislative history, the calm and serious questioning among business men took on the mien of the still before a storm.

Thinking to crystallize opinion on the merits or demerits of the proposal, President Hubbard called a special meeting for May 31, 1933, at the Hartford Club. The meeting was attended by over 200 representatives of the state's industries. Opinion was not shown to be definitely formulated on all phases of the bill. However, the general feeling was that industry should do its part toward the attainment of recovery, and that for the price it paid in sacrificing certain of its prerogatives, it would in all probability gain equal advantages through the elimination of price cutting and certain other evils. The meeting did make certain recommendations for amending the bill, chief of which was the elimination of Section 7A, or its amendment to apply to employees as well as employers; recommended advisory council instead of a single individual administrator; elimination of license section; substitution of a manufacturers' excise tax with certain exemptions in food, clothing and drug lines for the revenue provisions in the Act.

Throughout the whole life of N. R. A., the Association received up-to-date information on the various changes on codes, rulings, etc., and despatched these in turn to interested members. In addition, it held hundreds of conferences with groups and individuals requesting counsel on certain problems arising out of the administration of the codes. Particularly in the matter of handling labor disputes was the work of the Association effective. In this work the aid of Governor Cross was called for and freely given. The Association worked closely in cooperation with the State Re-

covery Board which through the splendid work of Dr. Edward G. Dolan was instrumental in settling over 100 labor disputes. Later when the Wagner Labor Board took over jurisdiction of labor disputes from the State Recovery Board, Governor Cross sent Labor Commissioner Joseph M. Tone and C. L. Eyanson of the Association to Washington to secure for Connecticut the right to settle its own strikes through the mediation efforts of the State Labor Department and a group of three—one representing industry, one labor and the other public—who would attempt to settle all labor disputes in the state. The work of Labor Commissioner Tone and those on the board who worked with him has been a notable contribution to industrial peace in Connecticut. Failing in this they were passed on to the regional boards either in Boston or New York, depending on the district of the trouble.

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Following one after another in rapid succession, and occasionally almost simultaneously, the occurrence in the "Federal Arena" kept the Association's officers, directors, committeemen and staff in constant "high gear," oftentimes requiring a large amount of overtime work at the office to speed through the mails, the "sea of imperative information," which, on more than one occasion, threatened to engulf the small staff made up for the most part of "veterans" who had passed through many prolonged periods of emergency activity. But the like of the N. R. A. period none had ever seen! Tons of paper was used, to be exact upwards of three-quarter of a million sheets, not to mention thousands of post cards, in order to rush the information quickly to members. Postmaster General Farley's department also reaped a handsome piece of business from the activity.

The 1935 story of Federal and State Legislative activity is so close and has been reported so recently in bulletin news and editorial form that its details are being left to some future historian. It may be said however, that the last session of Congress considered and passed more important pieces of legislation affecting business than any previous one in the history of Association activity. Likewise the General Assembly presented a greater host of bills for consideration than usual, numbering nearly 2,000 in all. Out of the entire grist of state bills none inimical to the cause of

industry were finally approved. The "New Deal" steam roller, however, passed the Wagner Labor Disputes Bill and a number of other regulatory measures which organized industry was unable to stop. Whether or not they finally prove injurious is yet to be seen with the passage of time.

#### TRANSPORTATION

As mentioned before, only casually, "some traffic matters" were handled by the first paid secretary of the Association, Mr. Philip E. Curtis. This work apparently grew in importance through the years, until in 1918, the Manufacturers' Committee, created as one of six new committees with the reorganization in 1917, decided to appoint a sub-committee which included: J. F. Atwater, American Hardware Corp., chairman; F. G. Russell, Landers, Frary & Clark and R. H. Martin, Chase Rolling Mills. The remaining four, chosen by the foregoing members included: Louis Isakson, Winchester Repeating Arms Co.; H. B. Bellfield, Billings and Spencer; R. W. Miller, Crane Co.; and J. E. Rowland, Cheney Bros. Because of the outstanding work done by this sub-committee it was soon set off from the Manufacturers' Committee as a separate entity—a position which it has held continuously to the present day.

As in the matter of legislative activity only the highlights of the Association's history in transportation activity can be here related. During 1919 the committee sent out over forty notices to Association members and appeared before railroad authorities in Washington and elsewhere in regard to transportation affairs directly affecting the pocketbooks of Connecticut manufacturers. The year 1919 also marked the beginning of a closer and more personal contact with the New Haven Railroad, of great value because it enabled the committee to act more promptly and effectively in the interests of members. After a poll of the membership, which indicated 95% opposed to continuance of Federal control of railroads, the committee wrote a letter to the Interstate Commerce Commission indicating opposition to further control, and with this request gave a full explanation of transportation conditions in Connecticut. Later similar action was taken with reference to Federal control of telephones and telegraph companies. Chairman J. F. Atwater also represented the Association on a committee from the New England Traffic League which con-

sidered with the railroad administration a large number of matters affecting member interests.

Thus did the Association launch its first aggressive year of activity in the transportation field. From then until now it has kept informed and entered into every activity which seemed to offer any possible benefit from participation, to the membership as a whole, and oftentimes in behalf of a single member. That effort has been continued and broadened through the years, until today the Association's Transportation Department, working with the Traffic Committee, covers every conceivable phase of traffic work from carrying many cases before the Interstate Commerce Commission down to quoting rates and making helpful routing suggestions for individual companies. In between 1919 and 1935, there are a number of high points to be mentioned in the next few paragraphs.

From the very beginning of Association activity in corporate form, it has been interested in the welfare of the New Haven Railroad—the main trunk line carrying the raw materials and products of its members. One of the early manifestations of that interest was in 1921, at a meeting held in New Haven on December 12 when members of the Association made known to the Attorney General of the United States their desire to have the New Haven Road returned by the government to its private owners. In its contacts with the New Haven and other railroads, the Association has not always opposed increases in freight rates, being willing during times of stress to go half-way in sharing the burdens of certain excessive freight rates. However, the Association went on record for a horizontal reduction of freight rates in a resolution passed at a meeting of its Board of Directors on December 14, 1921.

Under the increased freight rates proposed by the Coal Rate Revision of 1931, successfully opposed by the Association, members receiving one car of coal would have had to pay \$2,216.20 more in their combined coal and freight bill. Previously, in 1920, the Association successfully opposed a proposed freight rate increase from New England to the Pacific Coast, and later sponsored the Kellogg Amendment to the Transportation Act of 1920, which permitted the Interstate Commerce Commission to approve railroad ownership of water transportation lines. Likewise, from 1919 through 1922, when there occurred general improvement in transportation condition, the As-



sociation was unusually active in securing adequate coal supplies for Connecticut manufacturers during the coal strike, and obtaining freight service during the so-called "Outlaw strike" on the New Haven Road, which demoralized transportation activities.

In February, 1921, the Governors of the New England States appointed a committee of five members to act with committees from each state to consider the financial conditions and needs of the New England Railroads, including the proposed 10% increase in freight and passenger rates. Governor Lake appointed to represent Connecticut President Hubbard, E. O. Goss, president of the Scovill Manufacturing Company and three other representatives of commercial and other interests. This appointment marked the beginning of President Hubbard's service to Connecticut Governors, mentioned in detail in "43 Years of a Busy Life," elsewhere in this issue.

Always interested in harbor developments and in the establishment of new steamship services, the Association at one time effected a steamship service between Grecian ports and New London.

Of the 50 and more transportation cases in which the Association has participated to the advantage of its members, the outstanding 17 follow:

I.C.C. Docket 18387—Rates on pig iron from Troy, N. Y., to points in Connecticut and Massachusetts; I.C.C. Docket 15006—Bituminous Coal rates from Pennsylvania mines to Connecticut; I.C.C. Docket 14880—Consolidated Southwestern cases; I.C.C. Docket 21121—Rates on bituminous coal from tidewater ports to interior points in Connecticut; I.C.C. Docket 15879—The Eastern Class Rate Case; I.C.C. Docket 17000 Part 2—Western Trunk Line Class Rates; I.C.C. Docket 17000 Part 6—Iron and Steel Articles; U. S. Shipping Board Docket No. 45—Split delivery between Pacific Coast ports; I.C.C. Docket 23400—Coordination of Motor Transportation; I.C.C. Docket 6469—Steamer lines on Long Island Sound; I.C.C. Docket 12964—Consolidation of Railroads; I.C.C. Docket 13494—Southeastern Class Rate Case; Ex Parte 103—15% case—1931; I.C.C. Docket 26000—General Rate Level Investigation, 1933; I. & S. Docket 3662—Rail-Lake-and-Rail Class Rates; Ex Parte 115—Emer-

gency Freight Charges, 1935; Ex Parte 116—Interterritorial Rate Bases.

Many of these cases are still under consideration, constantly requiring the attention of the Traffic Committee, Commerce Counsel, John J. Hickey (Attorney for the I.C.C. for seventeen years and retained by the Association since 1923), and the Association's Traffic Manager.

In 1925, the Association aided in the organization of the New England Shippers' Advisory Board, of which its Traffic Manager is now a member of its executive committee. Being located far from its markets and raw materials, Connecticut must have adequate transportation service at reasonable rates to promote a prosperous industry. Thus, the Association has sought to bring into existence and to continue every possible service that would assist in continuing and expanding this healthy state of affairs. Ten years ago, a 50% on-time schedule at off-line transfer points satisfied shippers, since they believed it was the best which could be obtained. But the Association's Traffic Committee believed the on-time schedule could be improved and, accordingly, established the so-called Transportation Cooperative Plan in 1926. Under it, officials of the Association met in joint conference with officials of the transportation agencies with reference to any service which the Traffic Committee believed could be improved, or regarding any rates believed to be unjust. It was the general understanding that no case could be taken to the I.C.C. or any other tribunal without first discussing it in this cooperative committee. If a general agreement is not reached on the specific objective, the Association usually carries its case to some transportation tribunal. The best interests of both sides are served by this plan, as many cases have been prevented from going to the I.C.C.

Another interesting and important phase of the plan is the monthly reports compiled by the New Haven Road and presented to the joint meeting of the Traffic Committee, railroad, trolley and express representatives, showing the operating efficiency of all merchandise cars, originating in Connecticut, destined to off-line transfers. These reports, showing the number of cars handled, when and if on schedule, reveal a progressive improvement over the past ten years, from a 50% on-time schedule to an average of approximately 98% on-time arrivals.



Three years later, or in 1928, traffic courses were started with a view of educating a large group of shipping clerks and others in the finer points of traffic management. From the classes held in Waterbury, Hartford, New Haven, Bridgeport, Stamford, New Britain, New London and Torrington, there were graduated approximately 300 during 1928 and 1929, many of whom are today doing excellent work in the traffic departments of Connecticut industrial plants.

The high point in 1931 transportation matters was the strong opposition which the Association offered in the Case—I.C.C. 6469, Steamer Lines on Long Island Sound—in which the Colonial Transportation Company brought suit to compel the New Haven Road to give up its Sound steamship lines.

In connection with the services already mentioned, the Traffic Department of the Association makes studies to determine the reasonableness of rates, analyzes the relative transportation situations between individual members and their competitors, determines and attempts to obtain reasonable classification ratings on old or new commodities, quotes rates between all points in the United States and Canada as taken from one of the most complete tariff files in the state.

#### INDUSTRIAL RELATIONS

Although employment relations of individual member companies and the relations between industry and the public were given consideration almost from the very day of the Association's incorporation, this activity had its real baptism of fire during the pitched wartime days of 1917 and 1918. An Industrial Relations Committee was first authorized by the Executive Committee and appointed, with J. E. Otterson, Winchester Repeating Arms Co. as secretary, in 1919. Formally, however, the nucleus of a full-fledged departmentalization did not get under way until 1920.

Anticipating the coal strike in 1922, the Association aided members in utilizing substitute fuels, and, in addition, conferred with mine officials in Washington, as well as extending aid during the strike. Throughout the New Haven shop strike, mentioned under "Legislation," officers, committeemen and staff members of the Association aided in the courageous and intelligent stand of Clinton Bardo, then general manager of the road, but

now head of the National Association of Manufacturers. Other outstanding strikes in which the Association has given worthy assistance include: the Anthracite strike of 1925; Willimantic thread strike in 1926, only officially ended in 1934; the textile strike of 1933; and in literally hundreds of other labor disputes.

Within the scope of the Industrial Relations secretary of today come also workmen's compensation, taxation, labor reports, membership work, secretaryship of the Connecticut Industrial Council (an informal group made up of the managing heads of local industrial associations which was first started with meetings in 1919), and cooperative work with other organizations.

#### FOREIGN TRADE

The Association first took an active interest in the development of foreign trade in 1919 when arrangements were made with manufacturers in a number of cities to confer with the Belgian industrial mission then touring the country under the auspices of the War Department. Through this effort, Connecticut products were advertised widely abroad. During the latter part of that year, F. J. Kingsbury of the Bridgeport Brass Company, represented the Association at a Foreign Trade Conference held at Atlantic City, and W. Irving Bullard of the E. H. Jacobs Manufacturing Company made a report on European trade conditions which was distributed to the entire membership.

To a limited extent, the Association attempted in 1920 and 1921 to keep its members advised on matters of interest in foreign trade, but the continuous and ever-expanding efforts in this field really began in 1922 when members were notified of all changes in tariffs. In 1927, a good will trip was made to the West Indies by a number of Connecticut manufacturers. The year 1928 saw the beginning of the departmentalization of the Foreign Trade Department, the acquisition of a full-time Foreign Trade Secretary, and the establishment at Association headquarters of a Co-operative Office of the Bureau of Foreign and Domestic Commerce. As a fitting preface to the launching of this department, a two-day foreign trade conference was held at the Bond Hotel, Hartford, at which the heads of a number of departments of the Bureau of Foreign & Domestic Commerce spoke and conferred informally

with various groups of manufacturers on their problems in overseas trade. November, 1928, also witnessed the publication for the first time of a bi-monthly, four-page digest of helpful hints on foreign trade called "Foreign Trade Tips," which was published continuously until 1932.

Beginning in January, 1930, the Association, in cooperation with a number of members interested in developing new markets, began advertising in 43 markets of the world in all commercial languages. In addition to this service, which was continued for three years, a translation service was inaugurated for all languages.

In November, 1931, the Late Joseph E. Wuichet, Foreign Trade Secretary, was sent to South America by the Association, in cooperation with thirteen of its members, for whom he did trade investigation and promotion work and, in some instances, engaged the services of foreign agents. During his 10-week stay, he made trade surveys, investigations and appointed agents in Buenos Aires, Argentina; Montevideo, Uruguay; and Rio de Janeiro, Brazil.

Since its establishment, the Foreign Trade Department has arranged for conferences with commercial attachés of the United States when in this country on leave of absence from their posts, and with foreign representatives of American firms on visit to the United States. Besides the translation and other regular services previously mentioned, the Foreign Trade Department furnishes advance credit and sales information reports and assists in the collection of slow accounts and bad debts; makes surveys of foreign markets; furnishes information on foreign tariffs; and forwards trade opportunities to manufacturers whose names are filed on the Exporters' Index.

In October, 1935, for the first time, this department, under the guidance and direction of the Foreign Trade Committee, plans to inaugurate a course in foreign trade, for the benefit of employees of member companies.

#### PUBLICATIONS DEPARTMENT

This department was first inaugurated in January, 1929, when L. M. Bingham joined the staff, primarily as editor of *CONNECTICUT INDUSTRY*, succeeding Miss Anna Sands, who had resigned effective November, 1928.

Within the scope of this department, in addi-

tion to the publication of *CONNECTICUT INDUSTRY*, the Association's monthly house organ publication, comes the planning of all other pamphlets, books or mailing pieces outside of the regular bulletin service; the writing of many newspaper releases; special surveys and sales promotion service for individual members; executive employment service; office purchasing, brokerage service for excess materials, equipment or factories; industrial loan and investment service.

One of the first special services of this department was the collection, editing and syndicating of more than 270 brief histories of Connecticut's industries in 9 Connecticut daily newspapers. This effort was spread over a period of 10 months beginning late in 1929. Subsequently this department has compiled many special lists for use in



*Doorway of present Association headquarters*

sales promotion work by members, planned advertising and within the past 18 months has prepared and published in *CONNECTICUT INDUSTRY* educational articles dealing with fifteen Connecticut industries.

#### GENERAL CORPORATION HISTORY

Throughout its quarter century of service the corporation has had broad-visioned men as officers, directors and committeemen, who have constantly sought to give greater breadth to the services offered, consistent with a conservative estimate of income. Always new services in greater number might have been added had there been sufficient available funds to finance them. But the

wisdom of group leadership has never faltered in seeking and finding the funds to accomplish those absolutely necessary services which could be found nowhere else by the group. Other services which might have been added because they would be "convenient" rather than necessary being available from other private organizations, have been wisely deferred until such time as occasion demanded them.

Up to 1917 the presidents of the organization were respectively Colonel George Pope, Pope Manufacturing Co., and A. H. Bullard, The Bullard Machine Company; vice presidents, Colonel Charles M. Jarvis, American Hardware Co., George A. Driggs of the American Pin Co., and E. Kent Hubbard, Jr., Russell Mfg. Co.; treasurers, Charles M. Jarvis and Shiras Morris. Since 1917 officers have been as follows: E. Kent Hubbard, president; John H. Goss, vice president, R. C. Buell and C. L. Campbell, treasurers and C. L. Eyanson, secretary. Directors in the interim of years have been too numerous for mention here but have always included prominent industrial leaders in their respective localities and industries.

In 1917, a group of officers and members of the Association grouped themselves into a voluntary committee as follows: Colonel Pope, E. Kent Hubbard, C. T. Treadway, L. G. Kibbe, F. J. Kingsbury, H. H. Greenfield, I. M. Ullman, C. E. Whitney, W. J. Larkin, Guy P. Miller, W. E. Terrill, F. B. Farnsworth, and C. G. Phelps, recommending through Mr. Hubbard a complete reorganization of the Association with a view of extending its services. Meeting with the approval of the Board at a special meeting held in Waterbury, November 1, new by-laws were adopted and E. Kent Hubbard elected as president succeeding Colonel Pope, who had retired because of ill health. John H. Goss was elected vice president. Shiras Morris was elected treasurer but shortly afterward was relieved, at his request, by Robert C. Buell of the Johns-Pratt Company, Hartford. The new by-laws provided for six new committees. (See sub-heading "Committees".)

From its first headquarters in the Phoenix Bank Building, Colonel Pope moved the Association office in 1914 to quarters at 252 Asylum Street, where they remained until 1924, when the quarters in the Conning Building at 50 Lewis Street were taken over.

Probably the most exciting and feverish activity in the Association's history prior to the N.R.A. was the wartime period during 1917 and 1918. The Association officers placed the organization at the disposal of every branch of the government which could use its services to advantage in the struggle to win the war. The complete details of the length and breadth of the services performed is a full-length story in itself and therefore cannot be told here. A few of these activities mentioned without detail include: cooperation with the Military Emergency Board in the formation of the Home Guard Industrial Reserve for the purpose of continuing without interruption the output of munitions and supplies; support in harvesting foodstuffs and in developing manufacturers' gardens and an increase in food raising by industrial employees; loan of Mr. Phelps, second Association staff man, to aid with the raising of Red Cross and Liberty Loan funds; cooperation in recruiting men for the British government; assistance in raising war savings funds; Americanization work among foreign born; fuel conservation; and the industrial relations work, previously mentioned in the matter of arbitrating labor difficulties.

#### COMMITTEES

As in all effective cooperative organizations, committees of the Association have been the warp and woof of the fabric which has bound Connecticut industrialists together in group action toward worthy objectives. Through them, broad interest from all quarters of the state, and all types of thinking and expression has moved across the stage, toward a sensible mien—usually the wisest action.

The Workman's Compensation Committee was number one on the Association's list, starting action immediately after the organization meeting in 1910. Although numerous special committees were appointed prior to and since 1917, the next real addition of regular committees was made in 1917 with the reorganization as follows: Manufacturers' Committee (extinct); Agricultural Committee (still exists); Committee on Education (extinct); Finance and Taxation (still exists); Membership Committee (extinct). In 1918 the Traffic Committee, one of the strongest and most important committees of the present day, was created. In 1919 came the organization of

the Industrial Relations Committee (now extinct). Other committees which have been created since 1920 and still exist are: Power and Waterways, Research, Legislative, Highway Safety and Scenic Restoration and Foreign Trade.

The Research Committee, headed by John H. Goss, vice president of the Association and of Scovill Manufacturing Co., has held a number of conferences on Electrical Heat Treating, a Gas and Coke Conference. Also under its sponsorship were conducted two courses in Metallurgy during 1928 and 1929. One of the outstanding accomplishments of this committee was the work done in cooperation with the State Water Commission working toward the elimination of stream pollution without crippling industry.

#### ASSOCIATION STAFF

Operating under the Directors, Executive Committee and immediately under the direction of the President are five administrative staff members:

C. L. Eyanson, Assistant to the President, came with the organization from Drexel Institute, Philadelphia, in May, 1922, to handle legislative work and assist President Hubbard in the administrative work of the Association.

William A. Dower, Industrial Secretary came with the Association April 16, 1923, shortly after graduating from Harvard Business School, as Assistant to H. J. Smith, Industrial Secretary, succeeding him in 1928. He has charge of industrial relations, field work, taxation and workman's compensation, compiling investigations of various sorts, and releasing data on solicitors and their projects, liaison work between the Association and other organizations in the state.

L. M. Bingham, Editor of *CONNECTICUT INDUSTRY*, came with the Association January 2, 1929, after eleven years' experience in the fields of advertising, selling, accounting and journalism. He heads the Publications Department whose services have been previously mentioned.

N. W. Ford, Traffic Manager, who came with the Association in October, 1929, after more than a decade of transportation experience with the Winchester Repeating Arms Co., has charge of the far-flung traffic activities of the Association, mentioned previously in the details concerning the Association's transportation work. During the N.R.A. period he also played a prominent part

in the dissemination of official information on the subject to members. He is also charged with the work of supervising the departmental staff who carry on the detail planned by the administrative staff.

A. C. Hine, Jr., joined the organization in October, 1934, four months after graduating from Dartmouth College and after a brief experience with his father in the automobile sales field. He succeeded the late Joseph E. Wuichet as Foreign Trade Secretary.

The departmental staff are all, with three exceptions veterans with service records of from 5 to 14 years. It would be difficult indeed to find a more loyal and intelligent group of self-reliant workers anywhere.

The administrative staff in former years with dates of service as near as can be ascertained are as follows:

Philip E. Curtis, secretary, 1910-1914; E. F. Russell, Special Representative, 1914-1916; C. G. Phelps, secretary, 1916-1918; Dudley Harmon, assistant to the president, 1918 through 1921; Anna B. Sands, assistant secretary, 1919-1928; H. J. Smith, industrial secretary, 1920-1928; Clifford D. Jackson, assistant to the president, January 24 to May, 1922; Frederick A. Kirk, traffic manager, March, 1928, to June, 1929; Joseph E. Wuichet, executive assistant and foreign trade secretary, November, 1927, to October 7, 1933 (deceased). A few other staff members not mentioned here were hired for brief periods on special tasks.

#### CONCLUSION

On hundreds of occasions the Association has cooperated with state departments. On as many others, it has cooperated with dozens of different organizations in almost every field of activity.

In few words the long road, a mere trail at first from 1815 and the budding "Society for the Encouragement of Connecticut Manufactories," has broadened through the past 120 years into a wide highway which now borders on every conceivable activity for the encouragement and protection of Connecticut Industry—for the good of the state and nation. Two dates—1815 and 1910—nothing more than birthdays for organized Connecticut industry, but the most important ones to be forever remembered in the annals of Yankee ingenuity and management!





## FORTY-THREE YEARS OF A BUSY LIFE

### AUTHOR'S NOTE

*A chronicler of the life of the father of E. Kent Hubbard said of him: "He knew men, and to men whom he had tested and found true he was a rare friend and companion for, with all his business keenness, he had the fine inner character of the superlative gentleman. To know him in business was a training. To know him elsewhere was an inspiration as well."*

*The qualities of the father have gone to the son, as those who have worked for and with Mr. Hubbard well know.*

*This appreciative sketch is written by one who has served under him.*

\* \* \*

ON a warm day in June 1892, a big, curly-headed, blond giant of six foot one, carrying his 190 pounds easily on his broad shoulders and narrow hips, strode through a Connecticut mill yard. As he went his furrowed brow at times relaxed into a care free expression when he waved his hand in greeting, first to the men who were unloading the five hundred pound cotton bales from a freight car onto the receiving platform and next to the driver of a team passing out of the gate with heavy cases filled with bright, new cotton elastic webbing.

As he entered the office which led from the millyard, he again became serious. This was an earnest young man. He had a really important decision to make, and he wanted advice. With another wave and smile, and without ceremony, he pushed past those in the waiting room and,

somewhat after the manner of football field tactics, burst into a private office.

Back of the desk in that office sat a man whose demeanor indicated that he was lord of the manor, that the packing cases passing out of the gate at the time were the product of his imagination, that the smoke issuing from the factory chimney was his, and that he was a man who did things determinedly and without fuss.

"I suppose you noticed that there were people waiting in the outer office, and I suppose that you perceive that this gentleman and I are in the midst of a discussion. Will you be kind enough to go into the outer office and wait until you are received?" These words, in a not unkind, but firm tone, were addressed to the impetuous young man. The young man turned on his heels, and did as he was directed. For two hours he cooled those same heels. At the end of that time he was admitted.

Once again the man behind the desk spoke, without making direct reference to the previous visit. "And now what may I have the honor of doing for you, sir?" he said, and there was a twinkle in his eye.

"I have two contracts in my pocket and I don't know which one to accept," said the young man who stood respectfully in front of the desk.

"Contracts for what?"

"To play professional baseball."

"Accept neither. You are going to work in the mill tomorrow morning."

And that was that.

The man seated behind the desk was Elijah Kent Hubbard, Sr. The young man, fresh from the football and baseball field with the ink still wet on his diploma from Trinity College, was Elijah Kent Hubbard, Jr.

Looking far back from that day in the latter part of June 1892, we find the beginning of the Hubbard family in America. It was George Hubbard who founded the line when he came overland from Boston with the others who formed the first settlements in Hartford, Wethersfield and Windsor in 1635. In 1650, when some of the settlers went down to Mattabessett, later to be called Middletown, he went with them. Practically from that time on Middletown and Connecticut history have been linked with the doings of the Hubbards.

Chicago, however, was to know them. The father of Elijah Kent Hubbard, Sr. moved to Chicago shortly after his marriage to Elizabeth deKoven. "Moving to Chicago" meant going under soldier escort as a protection against the Indians to Fort Dearborn. Elijah Kent Hubbard, Sr. was born in that atmosphere—among the first white children to see the light of day in that far flung post. His son, Elijah Kent, Jr., the young man who, had he followed his own desires at the age of twenty-three, would have been a professional baseball player, was likewise born in Chicago on February 5, 1869.

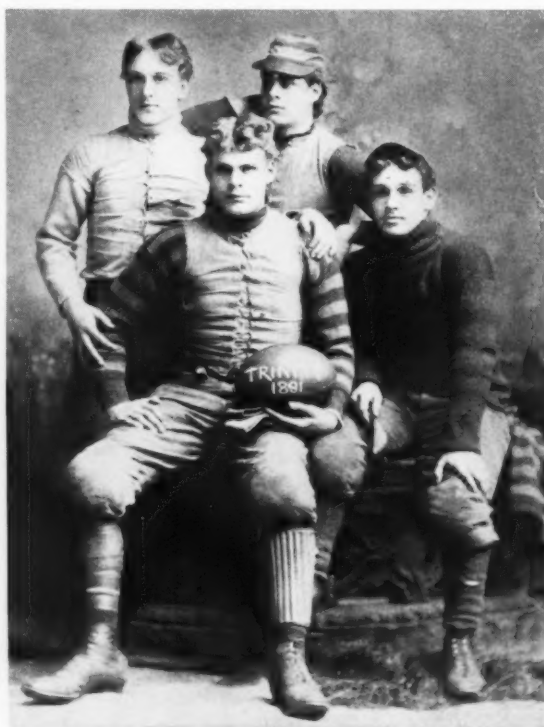
But through the years Connecticut called and so, in 1885, Elijah Kent Hubbard, Sr. moved with his family, to Middletown. Young Elijah Kent lived the usual life of the active, healthy boy. Finally he was corralled and sent to St. Paul's School in Concord, New Hampshire, where he prepared for Trinity College. When he entered Trinity his athletic prowess was already known, and his record in that line of endeavor during his college career was notable. Periodically Connecticut and other newspapers up to the present day make mention of his line-smashing ability when Walter Camp for two years named him to his All-American team. Equally illustrious was his performance at first base, and behind and at the bat—the proficiency which resulted in his having to make the momentous decision of "which contract to accept."

We have skipped along without even touching the high-points in this glance from June 1892

backward, for it is really of the forward glance we are writing.

#### A CAREER HAS STARTED

The picker room was Elijah Kent Hubbard, Sr.'s idea of "going to work" in the mill. No soft job in the office, no clean work in the weave-shed, and no exhilarating work unloading cotton bales would do as training for this young man. He was put in the picker room. That meant hot, heavy, sweaty work in an atmosphere lint laden. But he stuck it out—as a matter of fact, he had to—until, by progressive stages, he was made treasurer of The Russell Manufacturing Company in 1914.



*Trinity '93*

It was while engaged in this capacity that Mr. Hubbard came to his fullest realization of the need for coordinated action and the application of some of the principles of football and baseball team-work to the problems of industry. This realization soon led him into association with other men of like beliefs. Long before this, however, his sense of civic pride turned to public duty.

## ELECTIVE OFFICE

In 1901 he was candidate for Lieutenant-Governor of Connecticut—a year when no one with a Democratic label could have won, but, as a Trinity College bulletin of October 1902 said:

“Although he was not elected, his canvass brought him testimonies of personal esteem and popularity as gratifying to the college as to him.”

Later he was offered the nomination for state treasurer which he declined as, through the years, he declined repeatedly the nomination for congressman, for governor of the state, and for United States senator. His interest in politics from 1902 onward has, according to his public and private utterances, been primarily in connection with his desire to aid Connecticut industry and its workers to attain competitive supremacy.

### “TOM BROWN OF CONNECTICUT”

If office-holding did not interest him, service to his city, his state and his nation did. Linked with this desire for service to the people as a whole was, and is, his intense interest in the more unfortunate groups of society. Early in his business life he began work in behalf of those in penal institutions. A close friend and admirer of Thomas Mott Osborne, Warden of Sing Sing, he believed with him in greater humanity toward those unfortunates. His interest and helpfulness was recognized. In the New York Evening Post of August 14, 1915, we find the story of “Canada Blackie”—a review of a book by Mrs. Anna P. L. Field. The reviewer said:

“ . . . For this character in the flesh is intensely human, and his reactions, first to the brutality of the old order of things and then to the influence of such men as Thomas Mott Osborne, Warden Rattigan of Auburn and E. Kent Hubbard, director of the Connecticut Reformatory at Cheshire, abound in hyper-dramatic moments.”

Mr. Hubbard continued for long to be one of the recognized exponents of prison reform. In 1916 he said “It is a fact that our penal institutions all over this country need an entire renovation, and by renovation I mean not only the taking-away of the management of prisons and penal institutions from politicians, but also establish-

ing in these same institutions some kind of a plan or policy by which men who have been unfortunate enough to be taken out of society may have a chance to show by their actions that they are fitted to return to it.”

The people of Connecticut, successive governors, and successive legislatures recognized the righteousness of Mr. Hubbard's viewpoint and his ability to execute his ideas. He was appointed to the Board of the Cheshire Reformatory in 1911, and was its treasurer for twelve years.

Upon the death of that great humanitarian and penalogist, Colonel Norris G. Osborne in 1932



*To  
Tom Brown  
of Connecticut*

*from Tom Brown of New York*

*Auburn No. 33,333x 8 April 1916*

*Thomas Mott Osborne at the time he lived as a  
convict to study conditions at Auburn Prison*

Mr. Hubbard was appointed to fill his unexpired term by Governor Wilbur L. Cross. At the same time he was appointed as a member of the Board of Parole. He still serves on both of these boards.

To one who has the opportunity of seeing those who enter his office and who knows of the communications which he receives from those whose names are designated by numbers only, as well as from the families of these men, the fineness of his

humanitarian principles and his human understanding are discernible. With all, Mr. Hubbard is not a coddler. The esteem in which he has been held by those who are incarcerated has been evidenced many times. In 1914 he was elected an honorary member of the Mutual Welfare League of the Auburn Prison, an organization of inmates. By the members he was given the affectionate alias of "Tom Brown of Connecticut." The next year he was appointed an active member of the Board of Control of the Mutual Welfare League of the Connecticut Reformatory at Cheshire, likewise an organization of inmates.

#### MASTER OF ARTS

Akin to his work in penal institutions is not only his philanthropies but his service to hospitals. He served as head of the Middlesex Hospital from October 1918 until October 1923. His directorate of that institution has, up to the present, extended over a period of 20 years.

His work in behalf of charitable and correctional institutions is further evidenced by his active participation as a member and as vice president of the Connecticut State Conference of Charities and Corrections. In that position he served a number of years with The Honorable Schuyler Merritt and others.

Educational institutions have claimed his services. Public and private educational societies of the state have been the subject of study by him throughout his active life. He likes to tell little anecdotes not complimentary to himself about his lack of capabilities as an undergraduate. And, perhaps his athletic ability did, in the days before strict regulation, help him over some of the rough spots. However, it is recorded that he did emerge with his degree. More than that, Trinity College, his alma mater, elected him to its Board of Trustees in 1917, upon which he served until January, 1922.

Wesleyan University, in 1926 made him a member of its Board of Trustees, and his interest in these institutions as well as others has continued unabated. Wesleyan will not permit him to resign.

As an indication of the further esteem in which he is held by those in the educational world, Wesleyan University conferred upon him in 1924 the degree of Master of Arts. In presenting this degree, Acting President Howland said:

"Elijah Kent Hubbard, because Wesleyan University and Wesleyan men have found in you a loyal friend, because Middletown has found in you a citizen who may be counted upon to support those organizations and movements which make for civic betterment, because Connecticut has found in you a man who gives valuable and enthusiastic service for the good of the state, especially in our minds services to institutions devoted to uplifting and educating our youth—for these reasons I gladly admit you to the degree of Master of Arts."

Dr. James L. McConaughy, President of Wesleyan University, says of his service:

"To those of us who are Mr. Hubbard's Middletown neighbors, he is known, not only as a business executive and leader in New England industry, but as a good neighbor. Most of us would call him 'the first citizen of Middletown.' He and Mrs. Hubbard have shared generously in every movement for the betterment of our City. Our Chamber of Commerce probably owes its continuance to him. The development of our Hospital would have been very different if he had not given of his time and means to strengthen it. He has helped our new Community Chest to succeed in its first crucial year. The YMCA secured its former home largely through his efforts; he helped mightily in the campaign for our fine new building. He has been a Park Commissioner for years; many of our city playgrounds and beauty spots are due to his efforts. He has been a helpful member of our Rotary, Yacht and Country Clubs.

"Personally, I know him best through his service to Wesleyan as a Trustee. He was honored with the degree of Master of Arts in 1924. He has been a member of the Board since 1926. He is interested in every phase of Wesleyan's progress. He made possible the erection of the cabin for our Outing Club. He knows more about our athletic plant and program, probably, than any other Trustee."

#### AGRICULTURAL INTEREST

This many-sided man has always taken a deep interest in agriculture. One of his pet phrases is



that "Industry follows agriculture and is in a measure dependent upon it." Among his friends are counted the agricultural leaders of the state, past and present. His interest in agriculture and his realization of the value of that branch of human activity to the State of Connecticut resulted in his appointment to the Board of Trustees of the Connecticut Agricultural College and in years of service to and as vice president of the Connecticut Agricultural Society. The high regard in which the agricultural interests of the state hold him is evidenced by the opinion of the Commissioner of Agriculture, Olcott F. King:

"When I became a member of the Board of Trustees of the Connecticut Agricultural College, which has now become Connecticut State College, a few years previous to the Great War, I found two very active gentleman farmers who were also comparatively new members. Charles M. Jarvis, who did much of the talking, and E. Kent Hubbard, who made the motions.

"Board meetings in those days were lively affairs during that reconstruction period when President Charles L. Beach was building a foundation upon which has arisen the Connecticut State College of today. This was a critical period in the life of Storrs College and E. Kent Hubbard will always be remembered as one of the staunch supporters whose untiring energy and punch kept the secretary busy and Storrs College a real live and growing institution.

"For the past twenty-five years Mr. Hubbard has carried the same energy and interest into the Manufacturers' Association but has never lost his enthusiasm for Connecticut agriculture. He has always recognized that a correlation of agriculture and industry is necessary for the welfare of the state and nation.

"His interest in the Eastern States Exposition, of which he is a director, as well as his interest in the whole agricultural and industrial problem, makes us farmers who comprise but 5% of the state's population, feel that we have a friend and connecting link with the great industrial interests of the state."

When the Connecticut General Assembly, after numerous petitions covering a period of years,

provided for a committee to investigate the change of name of the Connecticut Agricultural College, it was Mr. Hubbard who was appointed by Governor Cross, together with Mr. Frank H. Peet, Mr. Ernest W. Butterfield, Mr. James Gwin, and Mr. Charles C. McCracken.

The years spent as a director of the Eastern States Agricultural and Industrial League, and as Vice President, are full of pleasant memories and associations and should be the source of much gratification to him who served so effectively. Of him, Joshua Brooks, the man primarily responsible for the Eastern States Exposition at Springfield, says:

"Anniversaries are among the important things of life, and this is true particularly when an anniversary is associated with twenty-five years of devotion to a particular task such as Mr. Hubbard has given in advancing the interests of the Manufacturers' Association of Connecticut and in unselfish public endeavor and service.

"It has been my privilege to know him through much of this period and from my own observation and personal knowledge of things attempted and results accomplished I realize how valuable his services have been in promoting the industrial welfare of Connecticut and New England as well as the general public good.

"As a member of the board of trustees and as a vice president of the Eastern States Exposition, his advice, active co-operation and friendly suggestion have aided materially in insuring its continued growth and successful operation. He has done much in the effort to have Connecticut represented by a state building on the Exposition grounds in West Springfield and has maintained a keen interest in the work our institution is doing for boys and girls.

"On the occasion of his completing twenty-five years with your organization, may I add my well wishes and congratulations to those of his host of friends in public appreciation of a greatly valued personal friendship."

#### FOR MIDDLETOWN

The constant call for service to the state did not remove the interest with which the object of

this narrative has served in his own community. Middletown has profited from his tireless attention to details which affect the citizens. Middletown did not have a sewer system which could be designated by the word "system" until E. Kent Hubbard put his shoulder to the wheel and saw that a system was created. The YMCA was hopelessly in debt and struggling on its last legs when he breathed life into it. His resignation as president of the YMCA was accepted with real regret by the Board of Directors with these words:

" . . . Twelve years ago the Association had reached a condition in which its very existence was threatened. With a mortgage of \$30,000, a floating debt of \$8,000, and with unpaid bills amounting to nearly \$2,000 more, it was a serious question whether the organization could continue to exist. . . . This burden, however, Mr. Hubbard took up with keen interest and enthusiasm. The perseverance and persistency with which he has pushed onward the interests of the Association can be appreciated by none except the few who have been associated with him from the start. With tireless energy, undismayed by indifference and even opposition, he has for twelve years used his power for the purposes of the Association. Not discouraged by prospects that have sometimes seemed to his associates to present insurmountable obstacles, he has never lost faith in the future of the Association. Slowly, under his administration, has the Association been placed upon a better footing. Slowly its financial burdens have been lifted; its bills have been paid; its floating debt has disappeared; and its mortgage has been either paid or provided for, until today it stands as it has never stood before in its history, practically free from debt. The Association may today be proclaimed a complete success and for its success it is indebted in the highest degree to its retiring president."

In the evenings most men spend at home, Mr. Hubbard, through the years, could have been found engaged in meetings of the Park Board, the Library Trustees, and other organizations interested in the development and betterment of Middletown. For 43 years these contributions to

civic betterment have been made. That they will continue to be made no one has the least doubt.

#### INTO RAILROAD FINANCING

Not long ago the President of the Manufacturers' Association of Connecticut picked up the telephone and asked for the Governor's office. When His Excellency was on the wire the President said: "This is your hired man, and he would like to report to you in regard to that last conference you asked him to attend on the New England railroad situation." The Governor asked him to come to see him at his convenience.

Mr. Hubbard has served under every Governor since Governor Baldwin's time—served in



*A friend and helper of Governors  
Left to right—Gov. Weeks, Gov. Holcomb, Gov. Trumbull and Mr. Hubbard.*

non-political capacities and in positions which carried no remuneration—nothing but hard work.

His interest in the railroads of New England and in their connecting lines had its foundation in the realization that Connecticut industry, to succeed, must have at its command adequate service at reasonable rates. Perhaps no one in New England has a more thorough grasp of the problems of New England railroads than he. Governor Lake appointed him in 1921 to a committee to investigate the finances of the railroads of New England. That committee, later to be known as the Storrow Committee, made a real contribution to the understanding of New England railroad problems. Governor Templeton continued him in a similar capacity, as did Governor Trumbull and as has Governor Cross. When Governor Trum-

bull left office in January 1931 he saw fit to write as follows:

"As the time for my official term draws to a close, may I take this occasion to express to you my personal appreciation for the many courtesies and favors which you have extended to me, not only personally, but on behalf of the Association which you represent.

"I have found it convenient many times to ask your advice on matters pertaining to the manufacturing industry in the state during my term of office, and you have always very cordially responded on every occasion.

"I can assure you that it has been a pleasure and a privilege to have had you and the Association which you represent as a contact on the many matters of an important nature during my term of office, and, as I hand over my duties to my successor, I bespeak for him the same cordial relations that have existed during my three terms as Governor."

The outstanding contribution, however, was his raising of the 1925 \$25,000,000 foreign loan of the New Haven Railroad.

The New Haven Road was in a serious plight due to its inability to raise the money necessary for the payment of the French loan which matured in 1925. The management and the members of the Board of Directors of the railroad, camped on the doorsteps of New York banking houses, sought government aid, and sought aid from every other possible source. They were met with refusals on every hand. They were at their wits' end. It was certain that the New Haven Railroad was to be thrown into receivership, with a consequent loss of many millions of dollars to stockholders, and great inconvenience and loss to the travelling and shipping public. Mr. Hubbard stepped into the breach. It was his belief that it was up to New England to save her major railroad. He determined that the people of New England should do it. Night and day for weeks he labored incessantly. In the beginning, alone, until gradually the idea took hold. History will record, but the people will forget. It may be that they have already forgotten that it was this tireless and determined man who saved Connecticut, Rhode Island and southeastern Massachusetts from a catastrophe. A few words tell the

whole story, and these words, of a man of few words, Mr. E. O. Goss, President of the Scovill Manufacturing Company, now, but not then, a director of the New York, New Haven & Hartford Railroad Company, place credit where credit is due:

"My dear Kent:

"Now that there is nothing which can intervene to prevent an entirely successful issue in the undertaking of the refinancing of the New Haven's seven per cent loan, I want to tell you what I think of your part in it.

"The credit belongs to you individually. There is not an individual who can rightfully share with you in the satisfaction of a personal achievement. Its accomplishment will take rank as one of the greatest things among the many great things which the great men of Connecticut have hitherto accomplished. And you did it.

"I would not say this if I had the slightest idea that the small weight of my testimony would in the least degree turn your head. You merely saw your duty and where there was no trial leading to the accomplishment of your purpose you blazed and cut one, and that is the simple truth. In its contemplation, and when you take a few days, weeks or months of well-earned relaxation, do not deny yourself any of the satisfaction which you have rightfully earned.

"My dear friend, I salute you.

"Sincerely yours,  
"E. O. Goss."

From Massachusetts we have the words of Governor Alfred T. Fuller who, in the BOSTON ADVERTISER of December 6, 1926, said:

"The other day I attended a conference of the New England business leaders at Worcester. At luncheon I sat beside Mr. E. Kent Hubbard. Mr. Lawrence, in introducing him, gave me a thumb-nail sketch of this gentleman on my right, whom I had never met before.

"He was a famous financier, prominent in Connecticut business, the man who handled for the New Haven Railroad the sale of bonds and stocks to the shippers and those who were particularly interested in the development of the road.

"It was a unique bit of financing, the originator of which must have been a man of ideals and imagination."

The newspapers of the time were filled with this "unique bit of financing." Here was a man who did what nearly everyone said could not be done, who, while he was raising \$30,000 for a local YMCA or seeking an appropriation for \$2000 to build an adequate bridge over a local creek, raised \$25,000,000 in the face of the refusal of the great, recognized financiers of the world.



*Elijah Kent Hubbard, Sr.*

#### PIONEERING IN GOVERNMENT BUDGETING

The raising of money and making of money invariably involves the saving of money. E. Kent Hubbard has never brooked the squandering of money. There is nothing more irritating to him than extravagance, whether it be individual or governmental. Particularly does he abhor the unwise use of entrusted funds. Of his penny watching during the long period of his connection with the Manufacturers' Association of Connecticut more will be said later, but we may record here that Governor Holcomb, his long-time friend knew of his watch-dog qualities. And so, in 1915, Mr. Hubbard was appointed as a member of the State Board of Finance under the newly enacted law.

Connecticut has always been a frugal state. It has, invariably, believed in the "pay as you go"

principle. "Pay as you go" means budgeting. And the new Board of Finance, headed by John M. Wadhams of Torrington, insisted upon budgetary control. These two men, with Robert V. McGee, the third member, and his successor, Byron Bugbee, kept the State of Connecticut on an even financial keel for thirteen long and critical years.

Prior to that time very few in official capacities in governments of the United States, including the federal government, saw any need for balancing income with expenditures. Governments merely spent what they felt ought to be spent, taxed the people for all that the traffic would bear, and then issued bonds for the remainder. Consequently, Connecticut came to be looked upon as a pioneer in the wise and judicious spending of the money of its citizens.

Sitting on the Board of Finance was another one of those non-remunerative, gruelling jobs which Mr. Hubbard has forever been called upon to take as a public duty. To sit on the Board of Finance meant literally that, and more. It meant many hours per day of public hearings and joint conferences with committees during each session of the Connecticut General Assembly. It meant listening to the wails and pleas of heads of state departments, bureaus and institutions. It meant keeping a tight rein on the appropriations and other committees of the General Assembly. It called for two-fisted men who had the best interests of the state at heart, who could make up their own minds, who could not be cajoled, badgered or browbeaten. During those eleven years the State of Connecticut had no funded debt. The issuance of bonds or other evidences of indebtedness was frowned upon. Connecticut paid as it went.

Such a record, naturally, came to the attention of helmsmen and financial directors of other states. Mr. Hubbard and other members of the board were called to distant states to give advice. And finally, the poor old federal government, knowing nothing of the art of budgeting finances, called upon these gentlemen of experience. But this was not until 1919 for the Hartford Courant of December 24 of that year reported:

"Senator Medill McCormick invited E. Kent Hubbard of the Finance Board to appear before his committee in Washington and tell the committee of the financial methods of this state, where he recognized what excel-



lent work in systematizing expenses and arranging a budget had been accomplished. Mr. Hubbard suggested to the senator that the full board could better speak for its work and, accordingly, Mr. McCormick has asked Messrs. Hubbard, Wadhams and Bugbee to go to Washington."

It is difficult for one who is delving into the results of the work of the old State Board of Finance to find who pulled the stroke oar. Mr. Hubbard never loses an opportunity to give all credit to John M. Wadhams. But that the former, however, was of real help is indicated in this note of the latter:

"My first meeting with E. Kent Hubbard was during the Legislative Session of 1915 on a foggy night in the dim lighted office of Tax Commissioner Pa Corbin at the State Capitol. With him was General Keeney, Frederick Kingsbury and other members of the Tax Committee of the Manufacturers' Association. This Association had volunteered to contribute to the expenses of the State and the Finance Committee, of which I was Senate Chairman, was trying to accommodate them.

"After several hearings the Committee had suggested that Connecticut follow Rhode Island and Massachusetts and base the tax on the principle of Corporate Excess. This suggestion was the occasion of the conference. My first sight of E. Kent Hubbard that night, with his square set jaw, was not very encouraging to a poor legislator. The result of the conference, however, was beneficial and the Manufacturers of Connecticut, under his leadership, made a most valuable contribution to the financial interests of the citizens of the State.

"The same year Governor Holcomb advocated the creation of a Budget Committee and a Board of Finance was created. E. Kent Hubbard, Robert V. Magee and myself were appointed the citizen members to serve with the state officials. Our office equipment consisted of some discarded desks from the old senate chamber, a second hand typewriter and an old adding machine, which we shared with the State Auditors who occupied an 8 x 10 room adjoining us. Miss Alice Brown, still in the employ of the state, was

the only paid employee. We worked in close contact with the Comptroller's office, which at that time had only five or six employees.

"Under the wise leadership of Governor Holcomb and aided by the wise judgment of Mr. Hubbard, Connecticut was put upon a sound financial basis. The budget was balanced and a substantial working cash reserve was always at hand. A sinking fund was set up that in 1936 will pay all of the bond indebtedness and a fund of \$2,500,000 was set up, the income of which went for the care of the veterans. At the death of Mr. Magee, Byron Bugbee was appointed, and we served until 1928, a period of thirteen years, when we were discharged.

"The functions of the state government were simple in those days. Today when you wish to transact business with the State, after you have located the building where the business is transacted you have to consult a guide to find the department, and with a very small increase in population instead of money in the bank, deficits are adding up in the amount of millions.

"During those years, Mr. Hubbard gave unsparingly of his time and talents in the interest of the State, and I can say without reservation that my association with him and with his family during those thirteen years was one of the pleasantest and most valuable of all my experience."

The "Dear Kent" letters from each successive governor who appointed him to serve on the Board of Finance are emblematic of the high regard in which he was held by these executives, for his work for the state included not only this particular service but many others. Governor Lake, his life-long friend, a Harvard man against whom he played football in his college days, wrote on December 22, 1922:

"I have held back the certificate of your re-appointment as a member of the Board of Finance to this late day, that it may be one of the very last acts of my administration, that the remembrance of it and you and what you did to help me in my administrative duties may be the longer with me.

"I should like to make an inventory of all the things I have put upon you to do for the State during the past two years. We would

both be more than surprised if I did so, but my appreciation is greatest for the spirit in which you gave your time and energy.

"Some day I may be able to pay back part of the debt. I hope so.

"With the sincere wish that your Christmas will be happy, that your New Year will be prosperous, and that every year hereafter will be as happy and prosperous as you deserve, I am

"Your sincere friend,

"Everett J. Lake."

Likewise, Governor Templeton, who, in the face of political criticism, stood solidly behind Mr. Hubbard in a controversy of no magnitude, but with a major political tinge, wrote on January 7, 1925:

"As my term of office is nearly ended and my work is practically done, I feel it my duty to drop you a line to tell you how much I appreciate the many helpful things that you have done for me and the fine work you have done for this wonderful little State of ours.

"It is really gratifying to run across men who are earnest in their efforts to build up our commonwealth and to be willing to help in establishing good citizenship. I want to express my satisfaction in having been able, through my office, to come in contact with you.

"Mrs. Templeton joins me in extending to you and Mrs. Hubbard our very kindest regards."

#### MULTIFARIOUS ACTIVITIES

We are not here writing of the detailed activities of the Association under his leadership, but it should be said that these activities during the last 25 years have been concerned with an unbelievable number of industrial problems. The solution of the problem of pollution of streams was no small matter; transportation cases, formal and informal, ran into the hundreds; water-way development projects as well as power projects claimed attention. In fact, every economic and social problem has had the close scrutiny and has held the active interest of Mr. Hubbard and his group. Nor were these problems concerned with Connecticut only, for they had to do with all types of federal legislation, including tariff, rail-

road consolidation, motor truck regulation, taxation, unemployment compensation, old age pensions, and a perfect maze of other legislative proposals. Promotional work also came within the field of activity, and Mr. Hubbard's long official connection with the New England Coun-



*Mr. Hubbard at Regatta, 1933, at Middletown*

cil, the National Industrial Conference Board, The National Association of Manufacturers, and other national, sectional and state organizations is testimony of his wide interest.

And so we close for the moment this chapter of the life of this busy man who began his financial service with his appointment to the Board of Directors of the Middletown National Bank and Trust Company in 1910, a position which he still holds and which was held by his father and which continued through his vice presidency of the same institution, his presidency of the Morris Plan Bank of Middletown, his treasurership of the Russell Manufacturing Company, his presidency of the Maxim Silencer Co. in 1912, his service as treasurer of the Cheshire Reformatory, his membership on the State Board of

Finance, his refunding of the foreign loan of the New Haven Railroad in 1925, his custodianship of funds of many civic and state organizations, and his constant watchfulness over the funds entrusted to him by the manufacturers of the state for the conduct of the work of the Manufacturers' Association of Connecticut, Inc.

#### SUPPLYING INDUSTRIAL LEADERSHIP

It is a long cry from that day in February 1815 when a new nation, finished with its latest and last brush with the mother country, earnestly emerged from its swaddling clothes and stepped out firmly to build an industrial empire, to this day in October 1935. Not only has much time passed, but the accomplishments industrially have been many. No small part of these accomplishments may be attributed to the cohesiveness of Connecticut manufacturers and their willingness and eagerness to work together for the common good.

It was Elijah Hubbard who was councilor of the first state manufacturers' association—The Society for the Encouragement of Connecticut Manufactories—formed in 1815. Practically uninterrupted Connecticut industry has been organized. The organizations up to 1910, however, were not as competent a force as the Manufacturers' Association of Connecticut was subsequent to that time. Even up to 1905 the number of manufacturers enrolled in the formal and informal organization was comparatively small, and the organization itself was more of a legislative committee than a well-rounded functioning body.

In 1906, however, a more formal association began to develop, an organization built more along the lines of the present day organization. In that year Colonel George Pope, of the Pope Manufacturing Company of Hartford, was chairman of the body, and E. Kent Hubbard, Jr., of the Russell Manufacturing Company of Middletown, was first vice chairman. It may be recalled that the gentleman of whom we write was just 37 years old at that time. But that man of 37 then, as now, realized that Connecticut industry's salvation, and its hope for the future, lay, and will continue to lie, in coordinated action. And so, when the organization was incorporated in 1910 we find E. Kent Hubbard, Jr. as one of the original incorporators. With him

were Colonel George Pope, Charles M. Jarvis, G. T. Brown, J. B. Alvord, F. B. Farnsworth, George E. Keeney, A. H. Bullard, George A. Vaughan and C. E. Whitney, all of whom, except G. T. Brown, who at that time was president of the Brown Cotton Gin Co., and Mr. Hubbard, have passed on, but whose work continues. From that day on the history of the Association is the biography of the man who had an idea and of those who worked so closely with him.

The organization did not "just grow." Leadership was necessary. That leadership was supplied by this man with an idea who was willing and anxious to give his full time and energy to the end that the Manufacturers' Association of Connecticut would function not only in legislative matters but would be departmentalized to the extent that it would be able to aid in the solution of practically all of the problems of a manufacturer. Mr. Hubbard's early training in transportation, gained in the Russell Manufacturing Company, as well as natural attachment to transportation matters, stood him in good stead in developing the Traffic Department which at present is second to none in the country.

The development of Connecticut's export trade has ever been of keen interest to Mr. Hubbard. He has never lost an opportunity to improve it. Wherever he went he had it in mind. Illustrative of this interest are two bits of negotiation which he carried on.

In 1930 he visited Greece. He not only took occasion to call upon the American Minister, Mr. Skinner, and on commercial attachés in the interest of the development of Connecticut's foreign trade, but he added to these, conferences with Venizelos, the Premier. The establishment of direct boat lines was discussed as was, of course, the market for American products in Greece. His impressions of those conferences and of the country itself are contained in an article in the October 1930 issue of *CONNECTICUT INDUSTRY*.

Even more interesting, and perhaps worthwhile, was Mr. Hubbard's interview with Mussolini. The subsequent correspondence is of real historical value. An account of this interview is given in the September, 1930 issue of *CONNECTICUT INDUSTRY*.

His study of the possibility of the development of Connecticut's foreign trade and his world travels eventually resulted in the creation of a full-

fledged foreign trade department and the establishment of a branch office of the Bureau of Foreign and Domestic Commerce at the headquarters of the Association.

This man knew that taxation was not a matter of legislation only, and he, therefore, early began the perfection of a taxation department. With like inspiration and foresight were created the other divisions of the Association, until in 1935 there exists an organization which renders all possible service to the manufacturers of the state and to the state as a whole.

#### INTELLIGENT SPENDING

There are a number of qualities of executorship which have made all of this possible. There has been insistence that the funds entrusted to be used for the benefit, promotion and encouragement of manufacturers in Connecticut should be used entirely effectively in that service. There has not been the ambition to collect large amounts of money. On the contrary, the effort has been to collect as little as possible, to the end that every penny should be expended expeditiously and that dividends in service should be as nearly 100% as possible. Money inexpeditiously spent is regarded by this executive as thrown away. A telegram of 12 words when 10 words would do is considered a waste. The purchase of a 54 inch desk when a 36 inch desk would meet the purpose has not been tolerated. The presentation of ten witnesses in cases before the ICC in transportation cases when three can tell the story is not countenanced. One thing only has been in mind and that has been service to the manufacturers and to the state without fuss, without feathers and certainly without extravagance. Frugality without penny wisdom and pound foolishness has governed. The manufacturers of the state who have entrusted the expenditure of funds in their behalf to E. Kent Hubbard have placed their trust wisely. The detailed scrutiny which is made of the cost of every move would be unbelievable to those who are less cognizant of responsibility.

#### A TRUE SENSE OF SOCIAL JUSTICE

As in the beginnings of the Association, so it is today that the legislative activities of the Association are of prime importance. The leadership displayed and the confidence in which the head of the Association has ever been held by successive state and national administrations has been a bul-

wark. Friend and counselor of governors, consultant of cabinet members, and a trusted friend of legislative leaders, this man has had much to do with the shaping of governmental legislative policies. He has been trusted because, unlike so many, he is not destructive. He is not "agin" everything. He has believed in social justice, and in fair treatment of the workers in industry. He was one of the pioneers in the development of sane workmen's compensation legislation. With such men as Howell Cheney, Henry B. Sargent, C. D. Rice, W. R. Webster and John Eccles in 1910 he undertook to formulate recommendations for action to be taken by the Association in connection with proposals which were being made from various sources for the adoption of changes in the liability and compensation law of the state. I have said he has been a champion of social justice and of the rights of working men and women. That justice demanded that it should not be one-sided justice. With other industrial leaders of Connecticut, he cooperated in bringing to a conclusion the so-called Connors-Connolly case in which the United States Supreme Court held that "a contract entered into by labor unions and substantially all of the manufacturers in the chief industry of a locality, to the effect that union workmen only shall thereafter be employed, is contrary to public policy. The tendency of such an agreement is to expose non-union workmen to the tyranny of the will of others, and to create a monopoly which will include what he has to dispose of, and other people need, from the open market, or perhaps from any market." To the principle laid down in this decision he has forever adhered, and his leadership in this field of his endeavors has carried Connecticut industry through many perilous times, through the war period and during the troublesome post war period, and through the difficulties which attended the mistaken liberalism under the National Recovery Act. This recognition of the rights and obligations of others has been in evidence throughout the years.

#### THE WAR DAYS

The war days called for unstinted service and that service was forthcoming. What organized industry did to help win the war "will never be forgotten nor will the story of its war production ever cease to be a proud chapter in Connecticut's history."



The war again gave Mr. Hubbard an outlet for his indefatigable energy, his diplomacy and his patriotism. A member of many patriotic societies, including the Connecticut Society of the Sons of the American Revolution, the Society of the Cincinnati, and the Society of Colonial Wars in the State of Connecticut, of which he has been Lieutenant-Governor and Governor and is a national Deputy Governor-General at the present time, he followed the patriotic fervor of his ancestors and entered whole-heartedly into what he felt was his part in the prosecution of the war. He was a member of the State Council of Defense, and served as a member of Connecticut's executive committee for the relief of Belgians, and on the Military Emergency Board with William Webster, I. M. Ullman, George Pope, C. T. Treadway, C. E. Whitney and Robert Swayze. Early in the war Governor Holcomb appointed him as a member of the commission for the increase and conservation of food supplies. In this work, as usual, John H. Goss was at his side.

The demands of the Red Cross and the liberty loan organization did not find the President of the Manufacturers' Association wanting. Throughout the war he was active in these matters. Less than a month before the Armistice he said: "Connecticut must redouble her efforts in spite of Germany's reply. Our enemy may see the necessity of peace, but the allies have no assurance of her repentance."

From this war period come many anecdotes which tell something of the character of the man. You may not be in conversation for any length of time with any of the friends of these days unless you are told of some happening. A tribute by George S. Hawley contains one of these little human interest stories:

"E. Kent Hubbard. The E stands for Elijah, and I always like to think of him as Elijah, who, like the prophet of old, spent many years standing up for the rights of his people, leading and protecting them along the way to their destination of industrial peace and stability. I think that comes pretty near summing up in a word his most active career during the past twenty-five years, and what a generation of change and confusion it has been!

"Mr. Hubbard is a man of quick wit and initiative, able to cope with any situation

which may arise. I remember the first time I saw him in action was at a meeting of the Connecticut manufacturers at New London during the World War. It was a luncheon meeting, a very important one. In those days men were thinking of life and death and suffering as reports of the war came pouring in, and, quite naturally, hardly a meeting of this sort was held without some word of prayer. The chief speaker was one



*Mussolini sitting at desk over which Mr. Hubbard's interview took place*

of Connecticut's leading divines, who was seated next to Mr. Hubbard, and I next but one to him. When the time arrived Mr. Hubbard sotto voce asked the Doctor to say grace. The reply was, 'I have got your number; say it yourself.' Mr. Hubbard looked at him in open-eyed surprise for a second, then arose and made one of the finest brief invocations I have ever heard.

"Thinking of the many important matters with which Mr. Hubbard has dealt, with the idea of making selection of a few of the outstanding things, I find that the list is so long, so varied, and the matters so momentous that I cannot fairly make a choice.

Suffice to say that he has had a leading part in everything that has had to do with industry in the State, in New England, and the Nation. Aggressive yet courteous, determined yet fair, he has been a bulwark as well as a leader in the amazing scenes of the last twenty-five years.

"Knowing as I do his ceaseless efforts on behalf of manufacturers I am led to say that while they are deeply appreciative of what he has done, they can never fully know how much industry owes to this outstanding Connecticut man, Elijah Kent Hubbard."

Following the war, with its demands for rehabilitation and reconstruction, Mr. Hubbard was in the fore-front. He served on many committees having to do with employment, fuel conservation, housing and transportation and in connection with the many serious problems which arose out of the cancellation of contracts by the federal government. This work was not finished until well into 1920. As late as 1919 President Hubbard was selected as a member of both the general and advisory committees of the reorganized Connecticut War Savings Committee which then became part of the First Federal Reserve District.

If the war days and the reconstruction days were periods of strain on the man who is the head of Connecticut industry, the boom days were equally strenuous. He was in constant demand as a speaker before all sorts of organizations on a wide variety of subjects. His counsel was sought by financial and industrial institutions. The wild orgy of spending displeased and worried this conservator of money, but he kept on doing his job as president of the Manufacturers' Association of Connecticut and as a member of various commissions, boards, societies and civic bodies—a feverish bit of work in a feverish time.

Then came the crash in late 1929—a return to the realization that every boom means a depression. This was to be no ordinary depression, however, because the boom was not ordinary. Industry was hard hit. Unemployment was rife. His knowledge of unemployment problems was again called upon when Governor Trumbull appointed

him to the State Unemployment Commission on which he served with the leaders of finance, labor and the general public. A notable piece of work was done by this Commission and its successor, the Emergency Relief Commission, headed by James W. Hook, aided by Newton C. Brainard, Edward Milligan, Sumner Simpson and Rollin U. Tyler. These two commissions did much to alleviate the distress which was occurring. Then came a political upheaval—a new administration, an administration ready to try anything. Conservatism was unpopular. There was a great cry that the capitalistic system had failed. Those opposed to it were having their day. Experiments were being made in every economic and social direction, and the majority of those who had builded the United States saw it going to the dogs.

Not so he who had faith in the sound thinking of Connecticut people.

He put his shoulder to the wheel. That shoulder has done most effective work during the period through which we are passing. It was effective not only because of its own strength, but because the mind that guided it had most unusual qualities of leadership and, more important still, the man had those personal characteristics which caused men to want to help. He has often said that the success of the Manufacturers' Association of Connecticut is not due to him, but is due to the men who have supported him and aided him through the years. It would seem that no industrialist can refuse a service to his fellow manufacturers when called upon. The men who have aided have been entirely unselfish in their service, and once they have rendered aid they have been loyal supporters and warm friends. Their number in Connecticut is legion.

And so the busy life continues in service to the group which has benefited so directly from his having lived, as well as to the state which he loves and has served so long.

Today we celebrate twenty-five years of active service with the formal organization known as The Manufacturers' Association of Connecticut—a service which we have noted in reality extends from at least 1906, a service which is only part of "Forty-three Years of a Busy Life."



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EDITOR'S NOTE. *Following are tributes from prominent industrial and other leaders which have been intercepted by the editor on the occasion of the 25th anniversary of Mr. Hubbard's service to the Manufacturers' Association of Connecticut.*

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THE approaching annual meeting of The Manufacturers' Association of Connecticut, Incorporated, aroused my curiosity as to how long that Association had been in existence and how long you had been connected with the Association. On looking up its history I found that The Manufacturers' Association of Connecticut was incorporated in 1910 by a group of prominent manufacturers who acted as the incorporators and signed the call for the meeting, which was held on the 16th day of December, 1910, at the Hartford Club. You were one of the incorporators.

However, there is a record of a meeting of a group of manufacturers held in 1906, where officers were elected, the Chairman being Colonel George Pope of the Pope Manufacturing Company of Hartford, and the First Vice Chairman being E. Kent Hubbard, Jr., of Russell Manufacturing Company, Middletown. This was a more or less informal organization and it was out of this group and its more or less restricted activities that the idea of incorporating The Manufacturers' Association of Connecticut was developed.

The meeting held in December, 1910, elected Colonel Pope as President, which office he held until 1913 when A. H. Bullard was elected President.

In 1917 there was a committee appointed made up of prominent manufacturers in the state, including yourself, to draw up a plan of reorganization which would, if adopted, enable the Association to render a more complete service to its members. The directors of the Association called a special meeting to be held in Waterbury on November 1, 1917, to consider this plan after they them-

selves had taken favorable action on it. The plan, embodying certain changes in the by-laws, was adopted at this meeting and referred for final formal adoption to the annual meeting of the Association held in December of that year. The changes recommended were made at that meeting. Also at that meeting Colonel Pope, who had become incapacitated through ill health, was elected Honorary President and you were elected President of the Association.

All this seems to show that your active interest of record in an association of manufacturers dates back to 1906. Your real official connection with The Manufacturers' Association of Connecticut, Inc., dates back to 1910, which proves beyond question that the approaching annual meeting will be the twenty-fifth anniversary of your connection with The Manufacturers' Association of Connecticut, Inc.

I very well remember the reorganization meeting above referred to held in Waterbury in November, 1917, because I attended it and it was the first time I had ever come in contact with the Association actively. I also remember very well the annual meeting held in December of 1917 when you were elected President of the Association, because I attended that meeting. These two meetings were the first occasions on which I had come in contact with you and made your acquaintance. They were the beginning of a contact and friendship that has lasted ever since and that has year after year become more active and more interesting as far as any duties I have had connected with the activities of the Association are concerned and, so far as my friendship for you is concerned, has become firmer and more cherished as each year has passed.

Connecticut is outstandingly a manufacturing state and its success naturally is measured by the success of its industries. As leader in this association of manufacturers you have been remarkably successful. You have always been able to gather around you on your Board of Directors a group of the leaders in their respective lines of busi-

ness and to get additional groups of our ablest men to work actively on committees of various sorts, whether they be standing committees or special committees, who have been willing to work industriously and recommend actions or programs on important matters of interest to the industries of the state, which are always arising. You have also succeeded in gathering around you a staff of paid personnel of unusual ability, which in itself stamps you as a successful manager. . . .

One important feature of your management has been the building up in the Association of a sound legislative policy, which supports all constructive legislation that appears before the sessions of the General Assembly and substitutes constructive ideas as amendments to poorly drawn laws where the purpose and intent are sound, but which always opposes and resists bad legislation. A similar policy has been built up with respect to federal legislation.

Another fine feature of your policy which is consistently followed is that the Association renders equal service to all its members, no matter what their size or proportion, volume of business, or number of employees. The result is that today there are few industries in the state, large or small, who are not members of the Association, and all acknowledge the value of its services.

As a citizen of the state, these considerations have brought me to a conscious appreciation of the fact that all of Connecticut's citizens owe you a deep debt of gratitude, because as the leader of your Association you have brought about year after year results that have been of great value in all the different fields that affect Connecticut industry, and thereby the life and security of every citizen of the state, when considered from either a sociological or an economic angle. The more power to you! I am sure that all of us are wishing you good health and happiness for years to come on the job in which you have served so long and so well and on which we hope you will continue, and, naturally, we are also wishing the same to the personnel of your organization which you have built up and which functions so ably and smoothly under your leadership.

With hearty congratulations and affectionate best wishes.

JOHN H. GOSS,  
VICE PRESIDENT, SCOVILL MFG. CO., AND MANUFACTURERS' ASSOCIATION OF CONN., INC.

THE year 1935 has historical significance for Connecticut. Much has been written and spoken about the Tercentenary exhibits from the past and products of the present have been in evidence. The oldest citizens, particularly natives, have proudly heralded the achievements and endeavored to impress upon their prog-

eny and aliens the important contribution made by Connecticut to the industrial and social advancements of the nation.

The Manufacturers' Association of Connecticut is acknowledged to be one of the most efficient in the country, which is largely due to Mr. E. Kent Hubbard who has been at its head for twenty-five years and who can justly be proud of the achievements of the Association under his leadership. He is entitled to praise and appreciation from the manufacturers of the state for his work in their behalf in the state, in the national capitol, and for his influence in behalf of industry with other organizations throughout the country.

He is both an organizer and a leader. His unselfish devotion to the interest of others has been outstanding, and I cherish the personal friendship of Mr. Hubbard as one of my fondest possessions.

S. M. STONE,  
PRESIDENT, COLT'S PATENT FIRE ARMS MFG. CO.

As a manufacturer and citizen of Connecticut I wish to record my appreciation of the work of E. Kent Hubbard in our interests over the past twenty-five years.

During his terms of service the Manufacturers' Association of Connecticut has become the outstanding organization of its kind in the country. Its influence in the best interest of industry has been splendid.

Mr. Hubbard's activities on various State commissions over many years have been of greatest value and the people have been benefited greatly by his painstaking efforts.

GEORGE T. KIMBALL,  
PRESIDENT, THE AMERICAN HARDWARE CORP.

IT is something more than a mere coincidence that Connecticut commemorates the tercentenary of her first settlement at a time that marks the twenty-fifth year of Mr. Hubbard's service to her industries in the Connecticut Manufacturers' Association. To me the occasion and the personality are symbols of the same thing—the essential qualities of character that distinguish both the ancient and inspiring history of the State and the impressive accomplishment of the man. There are few states in our country and few men in them who can stand as such symbols of sustained strength of spirit in these troubled times.

None but a man of such tireless, farsighted and unselfish devotion to the industrial advancement and economic welfare of the community could so appropriately serve on this occasion as the symbol of the state which was the cradle of the technical ingenuity, the thrift and industry



that have been the basis of our national achievement. These are days when such qualities in either communities or citizens are at a discount and subject of scorn and contempt among masses of men misled by ignorance or incited by self-seekers to waste the heritage of the past and destroy the foundations of the future. Everywhere men of sincerity, insight and good-will see the safeguards of the liberty and progress of the community assaulted, the traditions of loyalty, honesty, self-reliance and enterprise discarded and the integrity of our people undermined. Here is one who stands as a tower of strength in the industrial life of a great state, and his presence among you at such a time is a comfort and encouragement to such men everywhere.

DR. VIRGIL JORDAN,

PRESIDENT, NATIONAL INDUSTRIAL CONFERENCE BOARD



**M**R. HUBBARD first attracted attention in the town in which he has lived since early youth as a skillful athlete, competing with baseball teams representing Middletown. He continued this activity and took up football in preparatory school, and later on, as a player of these two sports at Trinity College, he was recognized nationally as a rugged and skillful sportsman of unusual ability.

During recent years he has continued his youthful enthusiasm for athletic pleasures by engaging in tramping, tennis and handball. By means of these sports he has maintained a vigorous health and to this active interest he owes a degree of physical vitality exceptional in a man of his age.

He has, however, a keen interest in all forms of physical training for the young. Though he has contributed two sons to the football teams of Yale, he believes that the development of the entire group is more valuable than the special training of a chosen few star athletes. His advice along these lines has been sought by many, and his influence in the promotion of a rational system of sport for all has been great.

As a citizen of Middletown, Mr. Hubbard has consistently shown an equal interest in all institutions contributing to the proper development of the young people of the community. He was for many years president of the Middletown Y. M. C. A., and has maintained his interest in this institution since its foundation. As president of the Middlesex Hospital and member of the Board of Directors, he has during the years made an unusual contribution to the welfare of the community. He has been interested in libraries, playgrounds, parks, the Boy Scout movement, has been a member of the Chamber of Commerce, and on the Board of Trustees of Wesleyan University and other institutions of higher learning in the state. In fact his influence has been felt in the organ-

ization and direction of every worthwhile institution in the community.

But valuable as his contribution to the various organizations has been, perhaps of more value has been his willingness to advise individuals from every walk of life. Only his most intimate friends know of the many occasions when this advice has been sought by individuals in distress because of physical, financial or social worries. It is amazing that a man as busy as he has been able to find the time, and has been willing to take it, to give this wise counsel to those seeking it.

It is this capacity for friendship, and unfailing good judgment in the service of institutions as well as individuals, that has made him the foremost citizen of the community in which he lives.

No word of appreciation of Mr. Hubbard, however, would be complete which did not recognize the inspiration which he has received from his wife, who at all times has stood by to encourage him in his undertakings and who at the same time has been willing to do her part in every worthwhile community project.

EDGAR FAUVER, M. D.

PROFESSOR OF PHYSICAL EDUCATION AND COLLEGE

PHYSICIAN, WESLEYAN UNIVERSITY



**E**. KENT HUBBARD. When he was Junior and after his honored father died—yes—for over forty-five years—I have known and loved him. To describe him—as I know him now and have known him in the years past, in a few words, is too much of a problem in expression for me. It is not always true that the boy is the father of the man, but it is more than half true of Mr. Hubbard.

As a boy and youth; an able dependable, courageous, honorable, athlete; a jolly hail fellow, unselfish, tolerant comrade; apparently unserious, unless a game or morals were at stake; then Kent was an oak post driven into soil that held like cement.

What that father boy produced as a man child of himself, the State of Connecticut knows well. I can only state and not as well as others will write—but he is a student, a thinker, an advisor, an executive and a friend—good in each capacity and preëminent in the last.

ARTHUR L. SHIPMAN

SHIPMAN AND GOODWIN



**M**R. HUBBARD's services to industry, centralizing in his native State, have radiated to a circle of national proportions. A leader in the building of a model State organization which became the authoritative voice of Connecticut industry, he has led his Association into a position not less constructive than practically defensive. The statute books of the State are marked with

the contributions of Connecticut manufacturers to the development of social betterment. As a member and official of the National Industrial Conference Board, he has made his steady contribution to the development of scientific study of American industry. As a Director of the National Association of Manufacturers, he was an energetic figure in assisting in the execution of militant policy. As an always influential factor in the direction of the National Industrial Council, he encouraged the growth of that remarkable cooperation that has been established among the State and local industrial associations of the United States.

In the meantime, he has been an outstanding citizen of his commonwealth and carried forward the notable tradition of his distinguished family. His accomplishments have been made possible by a fine sense of balance, a steadiness of purpose, a strong grip on fundamental principle, in terms of the essential American tradition, and a broad tolerance of differing opinion which has not softened his aggressive resistance to vicious ideas and unsound or unworkable theories.

Connecticut is fortunate in the possession of a son of her ancient faith, able and willing to give so much of time to what has been in its best sense a fine public service.

JAMES A. EMERY,  
GENERAL COUNSEL, THE NATIONAL ASSOCIATION OF  
MANUFACTURERS

THE twenty-fifth anniversary of Mr. Hubbard's official connection with this corporation recalls many memories of his devotion to its interest and his tireless energy and his success in piloting its course between dangerous reefs as well as through calm waters.

While deserved tribute is paid to the many members who have served as officers and directors and given freely of their time and experience, it is only fair to Mr. Hubbard to say that there is probably no man in this state who could have excelled him in persuading the busiest of the Connecticut manufacturers to contribute their personal attention to association affairs, in annual meetings, in committee work, in directors' meetings and in numberless legislative hearings. You could not say "No" to his personal appeal. He believes not so much in impassioned appeal for the passage or defeat of a legislative bill as in showing its virtues or exposing its vices by the first hand testimony of the men who from their own experience were best qualified to prophesy the result of the passage of the bill. He has believed that to be the fairest as well as the most effective method.

I have always found him devoted to the best interests of the Association. He has made his presidency his life work and thrown himself unreservedly into its duties.

JOHN H. BUCK  
BUCK AND MC COOK

TWENTY-FIVE years of service such as you have given our Association is a record to be proud of, and from the bottom of my heart, I congratulate you for your successful labors in our behalf, and the Association for its good fortune in having retained the services of such a president.

You well know how much I prize our personal friendship which has bound us more closely together as the years have rolled on, and I wish you the best of success in the years that are to come, and sincerely hope that our Association may be fortunate enough to retain your services and advice for many more years.

J. ARTHUR ATWOOD,  
PRESIDENT, WAUREGAN-QUINEBAUG INC.

MY acquaintance and friendship with Mr. E. Kent Hubbard goes back many years to our boyhood days which has lasted, am happy to say, up to the present time.

Just now I am associated with him on the Board of Pardons of the Connecticut State Prison and in this public service he makes a real contribution to the State of Connecticut by his interest and never tiring energy fulfilling by his efforts a desire to help the institution a very difficult obligation that goes with this responsibility.

During the twenty-five years of devoted service with the Manufacturers' Association and those interested in industry he has taken on many additional duties for the good of the community and State in which he lives and it is my sincere wish that he may continue with us for years to come and carry on as he always has the good work that so many benefit from.

WILLIAM C. CHENEY,  
PRESIDENT, CONNECTICUT STATE PRISON BOARD

TEN years ago E. Kent Hubbard and I represented our respective governors and, together with other loyal New Englanders, hatched the New England Council, an organization designed to examine New England, to stimulate New England, and to see that New England's proper needs and ambitions were understood and accepted outside New England.

We soon found that there were many common New England problems and Mr. Hubbard interested himself particularly in the greater employment of our people and the movement of material and foods to and from New England.

The vigorous climate of New England made living here more expensive than in most places within the great free trade area of the U. S. A. and at the same time made hard, intelligent work more pleasant. Mr. Hubbard understood that the future successful employment of our people depended upon industry and labor working

faster, longer and more intelligently than in most other localities and that this course must be understood by the people of New England and of the nation. . . .

Kent introduced into the Council and railroad meetings, when they lagged, a quiet game of bridge which saved many a boring situation, gave relief to those who participated, and made us realize that in addition to one who helped intelligently solve New England problems, he has the faculty of leading friends to spend their leisure happily and joyfully.

JOHN S. LAWRENCE



ONE of the compensations for efforts expended in civic, trade and public organizations, is the contact and association made with men who interest themselves in such organization activities.

My ten years of association with the Connecticut Chamber of Commerce, five years with the New England Council, and other similar organizations, were periods of continuous contact with the Manufacturers' Association of Connecticut, under the capable direction of E. Kent Hubbard, now rounding out twenty-five years of active identity with the management of that organization.

Connecticut has produced very few, if any men the equal of Mr. Hubbard in the broad field of public, civic and trade organization activities.

The ultimate position of the community, of industry, or of any other division of society, is in direct relation to the contributions made by men capable of direction and leadership. Connecticut has been unusually fortunate in having the services of Mr. Hubbard in this important field over the past quarter of a century. His services and personality stand out as an example of what can be done by a single individual. These services should be and I believe are appreciated by those who have been in close association with his work; and the influence of his pleasing personality has been of large value to those fortunate enough to come within its radius.

Connecticut industry and the Connecticut public as a whole are to be congratulated on having in its midst so capable and valuable a citizen as E. Kent Hubbard has proved himself to be over the years.

HENRY TRUMBULL,

TREASURER, TRUMBULL ELECTRIC MFG. CO.



ONE of the things that industrialists have learned to realize in recent times is the necessity for co-operative effort and action in the furtherance of their common and mutual interests. While for a long period it was largely believed that an industrial organization could most advantageously serve its own ends by attending strictly to its own affairs, happily this is no longer the case, as it is now quite generally recognized

that even active competitors have many things in common which can best be protected by working together to common ends.

Connecticut manufacturers have been fortunate in having the Manufacturers' Association of the State as a medium through which to secure accurate information, arrive at wise decisions, and take effective action. During the past quarter of a century they have been particularly fortunate in having the full-time services of one who, from his knowledge of industrial problems, wise judgment and resolute character has shown himself so exceptionally qualified to serve them as President of the Association as has Mr. E. Kent Hubbard. Not only has he shown himself possessed of those qualities which are a mark of leadership but he has displayed these characteristics particularly in the selection, organization, and direction of his staff. During the many years in which Mr. Hubbard has conducted the affairs of the Association, no interest of the manufacturers of the State has been overlooked or inadequately served.

WILLIAM R. WEBSTER,

CHAIRMAN, BRIDGEPORT BRASS CO.



I UNDERSTAND that Mr. Hubbard is completing twenty-five years of service with the Manufacturers' Association of Connecticut.

At the time he took office I happened to be President of the Employers' Association of New Haven County, which office I occupied for several years. This gave me more or less of a close touch with his activities. I always found him ready at all times to cooperate and, surrounding himself as he did with some of the ablest men of our state, as leader he was in a position to be most helpful on many occasions. It was a pleasure and a satisfaction to work with him. I think it was fortunate for our state that he, with the support of these able men, has rounded out an organization which, as far as I have been able to judge, is one of the best, if not the outstanding one, in the country.

We can all agree that if it had not been for this organization during the troublesome times we have passed through in the past five years the industries of the state would not have come through anywhere near as well as they have. The organization he has built up is a credit to his ability as well as the fact that the industries have stood back of him as they have.

I feel under great obligation to him for the many favors he has extended to me during these years as must many others who have had close contact with him.

May he live many years in good health that his usefulness to the organization and our state be continued.

WILSON H. LEE,

PRESIDENT, WILSON H. LEE CO.

# CONNECTICUT INDUSTRY ANNIVERSARY NINETEEN THIRTY-FIVE

VOLUME 13

L. M. BINGHAM, Editor

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## MANUFACTURERS' ASSOCIATION OF CONNECTICUT, INC.

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## GREETINGS TO CONNECTICUT INDUSTRY AND ITS LEADER

(Continued from page 2) of leading business men of the period. To this organization we owe the coordination and rapid development of our industries. The time, however, came when a larger and more closely knit group of leaders was necessary. The situation was met in 1910 by the incorporation of the Manufacturers' Association of Connecticut, which has since presided over our great and expanding industries.

It was most fortunate for the Association to have among its incorporators Mr. E. Kent Hubbard, who has long been its president. His intimate knowledge of the affairs of the State has led one Governor after another to appoint him to many positions of trust. He has served as a member of the State Board of Finance and Control, as a trustee of the Connecticut State College, as a

director of the Connecticut Reformatory, and on many other committees and commissions. Since I have become Governor, I have appointed him a director of the State Prison and a member of the Tercentenary Commission. He has also been my representative on the New England Governors' Railroad Committee where he has rendered distinguished service.

I take this opportunity to pay honor to the members of the Manufacturers' Association for their devotion to the general welfare of the Commonwealth.

*Wilbur L. Cross*

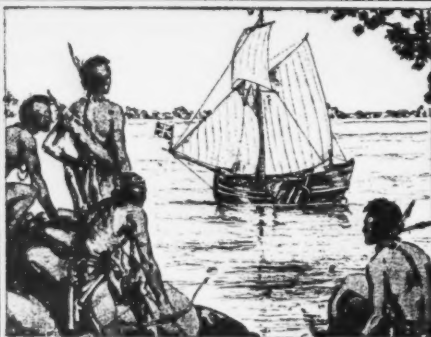






INDIAN VILLAGE OF SUCKTAG

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



ADRIEN BLOCK EXPLORES THE CONNECTICUT

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



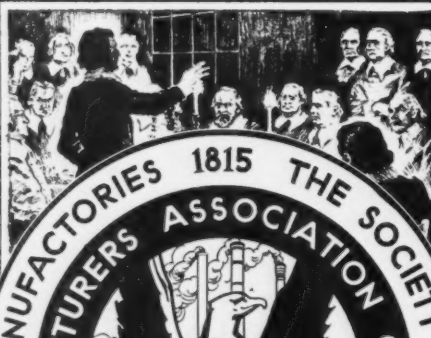
REVEREND THOMAS HOOKER ARRIVES

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



TROOPS LEAVE FOR PEQUOT WAR

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



THE WITCH IS PERSECUTED

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



HARTFORD GOES TO CHURCH

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



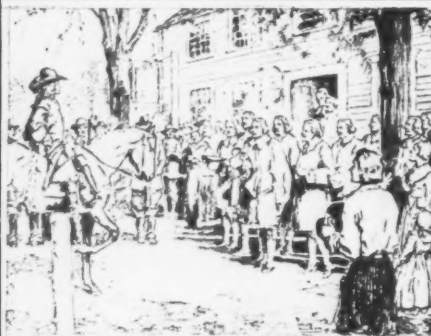
COMMODITIES ARE EXCHANGED

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



PETER STUYVESANT SETTLES AN ARGUMENT

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



GOVERNOR ANDROS ARRIVES AT SANFORD TAVERN

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



TRAIN-BAND IS INSPECTED

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT



"CONNECTICUT COURANT" BEGINS PUBLICATION

THREE HUNDREDTH ANNIVERSARY YEAR OF HARTFORD, CONNECTICUT

